A Clinical Lecture

ON

THE DIAGNOSTIC VALUE OF THE VISUAL ACUITY.

Delivered at the Royal London (Moorfields) Ophthalmic Hospital on Nov. 20th, 1907,

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Gentlemen,—I propose to speak to-day upon the diagnostic value of accurate records of the visual acuity, laying particular stress upon those diseases in which ambiguity is likely to arise. I shall not consider defects of visual acuity due to errors of refraction, though it is scarcely necessary to emphasise their importance and their elimination in the process of investigation. I have elsewhere[1] discussed this aspect of the subject in part. Nor shall I treat of defects of central vision due to the more easily recognised forms of disease, such as opacities in the lens, &c. I shall concern myself chiefly with the following groups of cases: (1) those in which central visual acuity is normal or approximately normal, whilst ophthalmoscopic investigation reveals serious changes in the fundus oculi; (2) those in which central visual acuity is depressed, whilst ophthalmoscopic investigation reveals no abnormality in the fundus; and (3) those in which central visual acuity and the fundus are both normal, whilst there are yet serious disease and impairment of vision.

Before entering upon the examination of these groups of cases I wish to emphasise the importance of systematic orderly investigation of visual acuity in all cases. The distant vision should first be taken, then the presence or absence of manifest hypermetropia, then the near vision; finally, the pupil reactions should be examined and all the results carefully recorded. It may seem waste of time to state these elementary facts, but experience unfortunately proves that this is not the case. Students fail to realise what an immense amount of valuable information is derived from this systematic examination and how much time is wasted by neglecting it. One repeatedly sees cases in which the distant vision has been taken and the accommodation promptly paralysed by atropine or homatropine. Further investigation may, perhaps, show that the pupil reactions are of fundamental importance as a factor in the diagnosis. Since they have not already been recorded a further visit of the patient becomes essential, much to his annoyance and possibly detriment. The neglect to test the near vision may in similar circumstances entirely frustrate accurate diagnosis, as, for example, in a case of post-diphtheritic paralysis of accommodation.

It is a truism to say that if the visual capacity is not normal it is the surgeon's duty to find out the reason of the defect. The second and third groups of cases will illustrate some of the difficulties which are met with in this attempt. What is more often forgotten is that even when the visual acuity is normal the fundus should in all cases be examined by the ophthalmoscope, not perfunctorily, but accurately and thoroughly. Take a presbyope, for example, whose vision is readily corrected by the ordinary rules and appears to be quite satisfactory. It is often tedious to examine every such case in the out-patient department with the ophthalmoscope, but if it is not done systematically mistakes will certainly be made. That this is an undeniable fact is shown by the cases belonging to the first group to which we may now turn our attention.

Headache is one of the commonest symptoms which come under the notice of the physician. The origin of the complaint is often obscure, but physicians are now aware that headaches are frequently due to errors of refraction or muscle balance. Consequently they freely avail themselves of the ophthalmic department and it must be admitted that some of the cases have not been very carefully investigated before they are passed on to the ophthalmic surgeon. That fact, however, does not relieve the surgeon of responsibility. Such cases as the following occur. A patient is sent complaining of headache. There has been no trouble with vision, but careful questioning may elicit the information that there has recently been transient mistiness from time to time. Examination of the visual acuity may show that it is normal both for distance and near. Ophthalmoscopic examination may reveal a choked disc in each eye. Perfect central vision therefore is not inconsistent with the occurrence of choked discs associated with grave intracranial disease. It follows clearly that every case of headache sent for investigation of the refraction should be thoroughly investigated with the ophthalmoscope.

In most cases of papillitis other than those due to intracranial pressure central visual acuity is early depressed, so that the risk of missing the disease is less likely, and this is particularly the case when there is also extensive retinitis. In albuminuric neuro-retinitis, for example, the macular region is quickly if not simultaneously involved with the optic nerve head and failure of central vision may be the symptom which leads the patient to consult an ophthalmic surgeon. As is well known the visual defect may be the first sign of sufficient prominence to excite apprehension, though the nephritis is already far advanced.

Another disease in which central vision may remain intact for a very long period is retinitis pigmentosa. This disease, which is congenital in origin, has often a notoriously prolonged course. During its progress central vision may be normal until the almost inevitable posterior cortical cataract makes its appearance. It is true that there are serious defects in the field of vision, usually of the nature of a ring scotoma, which broadens out in each direction until there is simply extreme contraction of the field. The field may be contracted down to close to the fixation point yet central vision may remain normal. In this condition there is no likelihood of the visual defect passing unnoticed, for such patients have the greatest difficulty in getting about. They see only the thing actually looked at, so that they grope about wildly amongst surrounding objects which normal people appreciate by means of their peripheral vision. A similar field, or rather absence of field, is not infrequently obtained in hysterical patients but their behaviour in walking about at once reveals the fallacy of the subjective test, and it must never be forgotten that perimetric observations are purely subjective tests, but that is another story.

In early cases of primary optic atrophy central vision may be intact, and these are liable to be overlooked unless the fundus is carefully examined and the field investigated; the latter will usually show definite uniform contraction. Allied to these cases and dependent upon a similar cause are the early cases of primary glaucoma. The tension may be quite normal at the time of examination, the fundus may be normal, or there may be arterial pulsation or even deep excavation of the disc; the field will usually show contraction on the nasal side. The history of the disease, the condition of the other eye, and as a last resource investigation of the central field by Bjerrum's method, may serve to distinguish between these two types of early atrophy.

The diseases in which the central visual acuity is depressed in spite of the absence of refractive error or its correction and in spite of the absence of gross disease, whether in the fundus or other parts of the eye, belong for the most part to two groups—viz., those which are commonly gathered together under the general heading "retrobulbar neuritis" and those in which there is disease of the higher visual nervous centres or tracts. Owing to the similarity in the clinical symptoms and signs the toxic amblyopias, of which alcohol and tobacco amblyopia is the form most frequently seen, are usually included in the class of retrobulbar neuritis. The pathogenesis of the various forms of toxic amblyopia is obscure, but anatomical evidence and experimental investigation tend to show that it is diverse in different forms. Thus alcohol and tobacco amblyopia is probably due to primary degeneration of the ganglion cells of the retina. On account of the greater vulnerability of the cells of the macular region the papillo-macular bundle of nerve fibres first succumbs, thus causing symptoms which are indistinguishable from those caused by primary destruction of the papillo-macular fibres themselves behind the globe, as in true retrobulbar neuritis. Quinine amblyopia, on the other hand, is primarily due to disorder of the vascular system manifesting itself locally in the eye by extreme passive constriction of the retinal blood-vessels with consequent anæmia and consecutive degeneration in the retinal. Hence in this form general amaurosis or extreme contraction of the field of

[1] The Visual Efficiency of the Uncorrected Myope, The Lancet, Feb. 2nd, 1907, p. 286.

vision ushers in partial or complete optic atrophy and there is no resemblance clinically to retrobulbar neuritis. You have had the opportunity of seeing recently in my clinic a case of poisoning by extract of filix mas. The patient, a young man, took a drachm of the extract three times a day for ten days. The result was a toxic amblyopia showing some resemblance both to quinine amblyopia and to the optic atrophy of lead poisoning. One eye showed finally normal central vision with slight constriction of the field and temporal pallor of the disc, whilst the other showed complete blindness with total optic atrophy. Some of you may also have seen a case of toxic amblyopia in a patient suffering from diabetes who was a non-smoker; the clinical picture nearly resembled that of tobacco amblyopia.

For examples of true retrobulbar neuritis I need only refer you to the admirable clinical lecture delivered here eight years ago by Mr. E. Nettleship and published in the Hospital Reports. The feature which stands out most prominently in these cases is the greater vulnerability of the papillomacular fibres, which explains the obscuration of the central portion of the field of vision, as shown by the development of a relative or even absolute central scotoma. The field of vision, however, is usually one of the last subjects which receives attention in the clinical investigation of a case. Ophthalmoscopic examination may show no abnormality in the fundus or it may show doubtful increased pallor in the temporal portion of the disc, slight blurring of the edges of the disc, or rarely pronounced papillitis; in the later stages partial or complete optic atrophy may be present. In the slighter cases there is one objective sign which outweighs the many subjective symptoms which are so often ambiguous and open to doubt. The retro-ocular affection not only interposes a partial block to the transmission of afferent visual impulses but acts in the same manner upon the afferent pupillary impulses. Hence, careful examination of the reaction of the pupil to light will show that although the pupil contracts more or less normally the contraction is not maintained under the continued incidence of the light. Instead of remaining constricted the pupil slowly dilates, though the light is still directed upon the retina. It would appear that the preliminary stimulus of light suffices to establish an impulse which overcomes the block upon the afferent pupillary system but that the succeeding stimuli, being of less intensity, fail to create sufficiently powerful impulses to sustain the reaction. One could scarcely adduce a stronger example of the necessity for careful and methodical examination of the pupil reactions at an early stage of the investigation of a case (*vide supra*).

These remarks on the pupil reaction of retrobulbar neuritis lead one naturally next to refer to those cases of retrobulbar affection occurring in disseminated sclerosis. This disease, unlike tabes, rarely appears first in the ophthalmic clinic, yet when one realises that it is often extremely difficult to diagnose between it and functional disorder and that about half the cases of disseminated sclerosis have ocular symptoms its importance to the ophthalmic surgeon will be readily appreciated. The partial blockage of afferent tracts which has been exemplified in the pupillary reaction is characteristic of multiple sclerosis. Sir William Gowers, with his usual acumen, has laid stress upon the defective "insulation" which occurs in this disease. Anatomical investigation strikingly bears out the point. Whereas in tabetic atrophy the primary lesion is probably situated in the ganglion cells of the retina, resulting in rapid degeneration of the optic nerve fibres with relatively slow and incomplete degeneration of the medullary sheaths, in multiple sclerosis the sheaths degenerate rapidly and completely whilst the axis-cylinders may show little or no change. Upon this fact depends the relatively good prognosis for vision in the latter disease.

The group of diseases with good central vision and no fundus changes dependent upon disease of the higher visual tracts or centres differs clinically from the retrobulbar cases in the persistence of normal pupil reactions. Blockage of the visual impulses in the optic radiations or destruction of the cortex of the occipital lobe—i.e., any lesion of the visual tracts above the external geniculate body, superior colliculus, and pulvinar of the optic thalamus—will produce the characteristic visual defects. Central vision escapes except in the very rare bilateral lesions on account of the bilateral representation of the fovea in the occipital lobes. The pupillary reactions are normal owing to the escape of the whole of the pupillary reflex arcs. Help in diagnosis here is obtained from the hemianopic pupillary reaction of Wernicke, which is characteristic of blockage of one optic tract. The visual lesion is usually a homonymous hemianopia. It is true that some of these cases may show changes in the fundus. Such are those due to intracranial tumour involving the occipital lobes or pressing upon the higher visual tracts, when the presence of choked discs may be anticipated. The amaurosis of uræmia is probably due to an unknown toxic product of metabolism acting upon the higher visual centres, since in most of these cases the pupil reactions are intact, as has been specially pointed out by Schmidt-Rimpler.

The subject of this discourse might easily have been further elaborated, but sufficient has been said to emphasise the importance of systematic examination and careful attention to detail in the examination of the visual acuity and of the pupil reactions.

ABSTRACT OF

A Lecture

ENTITLED

NOTES ON LEPROSY.

Delivered at the Polyclinic and Post-Graduate Medical School, Chenies-street, London, on Nov. 7th, 1907,

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GENTLEMEN,—Leprosy is reckoned among the infective processes. The causes of such processes are specific and are susceptible of demonstration; many others have been demonstrated but not that of leprosy. We have not yet any sufficient proof that the bacillus lepræ is indeed the cause of the disease process, although we infer that it is so from the frequency with which it is observed in the diseased tissues. This inference is probable and at some future date may be justified by experimental observation, but for the present we should be careful not to mistake that probable inference for a fact. We should remember, also, that the bacillus is not to be found in all of those lesions which, clinically and pathologically, denote the leprous process. This, I believe, is well known. I have myself recently recorded a case[1] which was beyond doubt one of leprosy in the clinical form commonly distinguished as the nodular or tuberous; and yet efforts repeatedly made during a whole twelvemonth to demonstrate the bacillus in the puffy swellings, tumours, and infiltrated maculæ accessible from the surface completely failed. But more than that, the nerves were markedly involved, as in that clinical form they always are, more or less involved, and the acromial branch of the superficial cervical plexus—a very slender cutaneous nerve—was enlarged throughout its course to the size of a cedar pencil. Two portions of it were excised at different points, hardened and cut by a highly competent pathologist, but no bacillus and no acid-fast granule such as might have been the remains of a bacillus could be found. The specimens could be recognised as sections of nerve tissue although the proper structure had almost completely disappeared, and the sole apparent causes of the change were those usually seen in leprous invasions, namely extensive round-cell infiltration, some spindle-cells, and fibrosis. Hence, while we have for the present no classical proof that the bacillus lepræ is the *causa causans* of leprosy, occasionally cases are met with clinically in which, according to common experience, the bacillus should be easily demonstrable, and in which, nevertheless, it cannot be found.

Now, let us provisionally adopt the current view that the bacillus lepræ is the *causa causans* of leprosy. On that assumption it would appear that every leper, or at least every leper who discharges and scatters leprosy bacilli, must be a danger to others. But this does not follow; and observed facts concerning the prevalence and spread of leprosy too familiar to need mention here show that some third factor is indispensable, even after the assumption that the bacillus lepræ is the essential cause of leprosy has been

[1] Report, New South Wales, Government printer, 1906.

made. We do not know whence the bacillus lepræ proceeds; if it have a habitat outside the human body that has not yet been discovered, while if it have no habitat but within the human body (so, presumably, that the sick must constitute the means by which the disease is maintained and spread), then it is quite evident, I think, that some undiscovered *tertium quid* is necessary to maintenance and spread of the disease. What the nature of that factor may be cannot be surmised; it may be essential or it may be merely incidental.

For after those two points have been conceded—after having assumed, in accordance with the common opinion, (*a*) the causality of the bacillus and (*b*) its communicability from the sick to the healthy—there are other considerations which must be entertained before a complete theory of the maintenance and spread of the disease can be framed. In the laboratory it is enough to possess the cause of a disease and a susceptible animal to reproduce the disease with certainty. Yet not quite enough either. To disregard other factors at all events the cause must be in a suitable state and it must be suitably introduced into the body. In the laboratory these conditions are under control, but in nature we have to do with the spread of disease under conditions which for the most part are not merely uncontrollable but very variable. Practically it is not sufficient to have the cause in conjunction with a susceptible subject. In other diseases this is observed daily, and it must also be the case with leprosy. Here epidemiological methods can render valuable assistance, but only on condition that they are employed with great care. The observations must be accurate; it is equally important that they should be complete, and the data thus acquired must be scrupulously scrutinised, and criticised by the observer himself even with hostility. Great number of cases is not merely unnecessary but is a serious obstacle to clear vision. I have endeavoured to adhere to these principles in investigations which I have carried out during a good many years past in New South Wales.

[Dr. Thompson here described his means of inquiry and his method of using them. He then said:—]

Not to detain you too long, I will merely say that the result of these inquiries was expressed by me about ten years ago in the following terms. In New South Wales it appears, on the one hand, that avoidance of association with any leper is not enough to avoid attack, while on the other hand, close association with lepers is a matter of very little practical importance at most. I have seen no occasion since in the facts further observed in that part of the world to alter that provisional conclusion, and I still adhere to my opinion that on the whole the available evidence makes it more probable that the infection of leprosy is received by man from his environment rather than from the sick. I think, also, for reasons which there is not time to enter upon on this occasion, that the infection may very probably be received by ingestion, but I have no good grounds for expressing a strong opinion that it is so received. While thus regarding with some favour the suggestion that the infection may be taken by ingestion, I do not forget the histological observations recorded by pathologists, and especially by Woit of St. Petersburg, and the inference drawn from them that the infection is taken by the skin and is essentially an ascending neuritis which leads ultimately to generalised infection of the body. This simple view is not completely reconcilable with all of the clinical data. In the first place, signs which might be fairly indicated by the phrase "initial sore" are almost always wanting, and when observed, as very rarely they are, their significance in relation to the path of entry is far from clear. Secondly, at whatever stage of illness cases come under observation, alterations in the greater accessible nerve-trunks—in the facial, ulnar, median, peroneal nerves, &c.—may always be detected by the competent observer in the shape of alterations of form, or of consistency, or of sensitiveness, or of all three together. Thirdly, almost always there is absence of correspondence between the distribution of areas of insensibility and the areas supplied by the altered nerve-trunks. Now, although this would seem to point directly towards a local invasion of nerve-endings in the skin, if the latter really indicated the path of entry—if the nerve-trunks became infected by a neuritis which ascended to them from the nerve-endings—the correspondence should be perfect. Without laying stress on that point, however, it is easy to cite another of indisputable force: it is that in cases of almost universal leprous œdema tactile, pressure, heat, and pain sensations sometimes appear to be perfectly normal, even after four or five years of manifest disease.[2] Analogous observations which I have made tell against the hypothesis that the infection is commonly received by the nasal mucous membrane. This is often affected, it is true, and the bacillus can often be demonstrated in its secretions. But cases are not uncommon in which no evidence of such affection can be got. Not only can the secretions not be made to yield the bacillus but no signs of leprosy of the nares (such as frequent and easily excited bleeding, or repeated blocking of the nose as from catarrh) have in such cases ever been present. But supposing them to be, or to have been, present, it is still quite impossible to ascertain whether they were the first signs of illness. My experience is that they supervene earlier or later in the course of illness, and only according to the patient's inaccurate observation seem sometimes to have preceded the obvious signs of a generalised infection.

If the foregoing remarks have any value it lies entirely in abstinence from expression of positive opinions, and even of any strong conviction, in a case where accurately ascertained facts to support them are sadly deficient. I will conclude on this head, therefore, by noting that the successful inoculations of apes, which have recently been recorded by Nicolle in the Annals of the Pasteur Institute, hold out hope that a firm step in our knowledge of the etiology of leprosy may soon be taken should they stand the test of repetition by other observers.

And now I would turn to treatment. I wish to say a word on my experience with chaulmoogra oil and then to draw your attention to a method recently published by Deycke Pacha. As to chaulmoogra oil it is generally considered to be the only medicament internally administered in which any hope of effecting a cure lies. I have myself expressed the opinion that it almost always does some good; but I must add that in my hands its favourable effects have been limited to a slight improvement. That improvement has been in the patient's general health mainly and in his feelings; it has been such that I could not tell whether it was due to the medicine or to the stimulus of a renewed hope of recovery. In either case it was practically unimportant in relation to anything which could be regarded as towards cure. It has sometimes been accompanied by very slow and very slight improvement in the visible manifestations of the disease; this was no more than that which usually occurs spontaneously from time to time, and has not set in after commencement of this medication so constantly as to afford good ground for supposing that it was due to the drug. For two years past I have been investigating this treatment with some accuracy[3] and I hope in a year or two more to record a series of cases in intelligible form from which the reader may judge of the results for himself. I fear they will confirm the experience of the two years which have elapsed already expressed above. I have, indeed, recorded one case of recovery under chaulmoogra oil. I cannot now enter into the details which may be found in "Lepra" and in THE LANCET;[4] they should be carefully perused in order to judge in how far my opinion that in that instance the recovery was most probably due to causes inherent in the patient and independent of the medication is justified by the record.

[Dr. Thompson then described briefly the investigations recorded in the *Deutsche Medizinische Wochenschrift*, 1905 and 1907, by Deycke Pacha and Raschad Bey, showing slides of the bacterium utilised by them, and exhibiting many skiagraphs and photographs of patients taken by Deycke Pacha before and after treatment with "nastin," a substance extracted from the bacterium.[5]]

[2] Ibid.
[3] Loc. cit., supra.
[4] THE LANCET, Dec. 1st, 1906, p. 1508.
[5] This substance may be procured from Messrs. Kalle and Co., manufacturing chemists, of Biebrich a. R.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The next meeting of this society will be held on Dec. 6th, at the Miller Hospital, Greenwich, at 8.45 P.M., when Dr. J. S. Risien Russell will deliver the Purvis Oration on the Diagnosis of Organic from Functional Affections of the Nervous System. After the oration a conversazione will be held.

THE VALUE OF BLOOD-PRESSURE DETERMINATION IN THE DIAGNOSIS OF ANEURYSM OF THE THORACIC AORTA.

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THE experience of most clinicians will, I think, be in agreement that in a large proportion of cases of aneurysm of the thoracic aorta it is impossible by digital examination to detect a difference between the pulses on the two sides, either as regards their volumes or the time of their occurrence. For this reason it seemed to me worth while determining whether instrumental examination would lead to a similar result[1] in regard to a difference of arterial blood pressure between the two sides. Accordingly I investigated this point in 30 cases of aneurysm, the observations being limited to cases in which the arch or ascending portion of the aorta or the innominate artery was involved, because it is among these cases of aneurysm only that one would look for differences between the pulses on the two sides. For purposes of comparison I examined the same point in other series—viz.: (1) cases in which there were the clinical signs of mere dilatation of the ascending part or arch of the aorta; (2) cases either of arterio-sclerosis without signs of dilatation of the aorta or else of mediastinal tumour; and (3) cases in which there were no signs of any of these pathological conditions. The first two of these series were chosen as including the conditions other than aneurysm most likely to yield a difference of pressure on the two sides,[2] and from which perhaps more frequently than any others thoracic aneurysms require to be diagnosed. The diagnosis of practically all the cases of aneurysm and of dilated aorta, when not confirmed by necropsy, rested not solely on my own opinion but were confirmed by the physicians under whose care the patients were, and in the case of my own out-patients by one or other of my colleagues. Personal equation in the diagnoses was thus so far as possible eliminated. The average systolic and diastolic pressure was calculated for all the cases of aneurysm and also for those of dilatation of the aorta in order to institute a comparison between these two conditions. In every case the mean of all the observations made was taken so as to form the basis for calculation of these results.

Details of method of investigation.—The instruments used were Stanton's blood-pressure instrument and Oliver's hæmo-dynamometer (his original instrument). The former[3] gives both systolic and diastolic pressures in the brachial artery by the method of circular compression of the limb; the point at which the pulse reappears on relaxing the pressure after the obliteration of the pulse shows the systolic and the point of maximum oscillation[4] the diastolic pressure. The latter instrument records the diastolic pressure (shown by the point of maximum oscillation of the indicator) in the radial.[5] Inasmuch as Stanton's instrument gives more reliable results than Oliver's, for von Recklinghausen has proved experimentally that with an armlet of a certain width the Riva Rocci method gives accurate readings of systolic pressure, the results obtained by Oliver's instrument alone[6] are given separately from and after those in which Stanton's instrument was employed. The wrists when Oliver's instrument was used and the arms when Stanton's was employed were kept at the same level (that of the heart), so as to eliminate the disturbing influence of gravity and for the different observations the patient was so far as possible in the same position, usually that of recumbency. In the earlier observations with Stanton's and in all those with Oliver's instrument corresponding observations on the two sides were separated by as short an interval of time as possible. Latterly, however, at the suggestion of my colleague, Dr. O. F. F. Grünbaum, I have used a modification of the apparatus by means of which the systolic readings on the two sides are made practically simultaneously. In this, by means of two armlets connected with the mercury reservoir of Stanton's instrument by a T piece and tubing, both brachials are simultaneously compressed. If the blood pressures on the two sides be unequal the reading given when the pulse reappears gives the systolic pressure on that side at which it reappears, and on still further reducing the pressure the reappearance of the other pulse will likewise give the corresponding pressure. If, on the other hand, the pressures on the two sides be equal, the pulses will, of course, reappear simultaneously.

Conclusions.—1. The arterial blood pressure in most cases of aneurysm of the thoracic aorta or innominate is either normal or slightly above normal. It is as a rule, however, much higher in cases of mere dilatation of the aorta, and this fact is of some value in the differential diagnosis of these two conditions.

2. A distinct difference (at least five millimetres) between the arterial blood pressures in the two arms is the rule in the majority, and in about the same proportion of cases, on the one hand, of both aneurysm of the arch or ascending portion of the aorta and aneurysm of the innominate and, on the other, of dilatation of the aorta; and a marked difference (at least ten millimetres) is equally common in both. Such differences are therefore of no value in the differential diagnosis between these conditions. A great difference (at least 20 millimetres) seems to be likewise about equally common in these two classes of case, but a difference of upwards of 30 millimetres speaks strongly in favour of aneurysm as against mere dilatation of the aorta.

3. Whilst distinct (at least 5 millimetres) or marked (at least 10 millimetres) differences are the rule in a far larger proportion of cases of aneurysm of the arch or ascending portion of the aorta or innominate than in cases, on the other hand, of arterio-sclerosis or mediastinal tumour, yet such differences are sufficiently frequent in the latter conditions to lead to the conclusion that their presence in a particular case affords but little help in the differential diagnosis between these conditions on the one hand and aneurysm of the arch or ascending portion of the aorta or innominate on the other. Differences of pressure between the two sides greater than 20 millimetres afford, however, strong evidence in favour of aneurysm of the arch or ascending portion of the aorta as against the two other conditions.

4. A distinct difference between the pressures on the two sides is the exception in cases where none of the above pathological conditions are present.

5. Digital examination of the pulses in cases of aortic aneurysm is a far less sensitive method than instrumental, frequently gives results directly at variance with those obtained by the latter means, and hence is of much less value in diagnosis.

Analysis of results.—In the analysis of results here given the readings of systolic pressure obtained by Stanton's instrument are used as the basis of comparison, inasmuch as the diastolic readings are from the nature of the method less accurate. Those observations in which Stanton's instrument was not used but in which Oliver's was employed are dealt with separately as less importance is attached to them.

Observations in which Stanton's instrument was employed: comparison of pressures on the two sides.—In 13 of the 20 cases of aneurysm a majority of observations showed a difference of pressure between the two sides of at least five millimetres, and five of the 20 a difference of pressure between the two sides of at least 10 millimetres. Further, in nine out of the 12 cases of dilated aorta a majority of observations showed a difference of pressure between the two sides of at least five millimetres, and four of the 12 a difference of pressure between the two sides of at least 10 millimetres. On the other hand, in the cases of arterio-sclerosis and mediastinal growth, only 10 of the 21 cases showed in a majority of observations a difference of pressure

[1] After commencing this work I read the following statement: "One of the most important signs of thoracic aneurysm is difference in the radial pulse, which is often strikingly shown by the sphygmomanometer when palpation alone is uncertain." ("The Value of an Accurate Knowledge of Arterial Blood Pressure to the Clinician," by J. B. Briggs, M.D., and H. W. Cook, M.D., Maryland Medical Journal, January, 1903.) I have, however, been unable to find any records of work done in this direction.

[2] It is said that differences of pressure in the two radials are common in old people, probably as the result of senile arterial changes in the larger vessels. ("A Review of Recent Work upon Blood-pressure," by J. M. Cowen, M.D., The Practitioner, August, 1904, p. 229.)

[3] Modified from Riva Rocci's instrument.

[4] Howell and Brush have shown that this corresponds to the diastolic pressure (Boston Medical and Surgical Journal, August 8th, 1901).

[5] One occasionally meets with a case in which, owing to the thickness of the tissues superficial to the radial artery, this instrument cannot be used.

[6] In my earlier observations Oliver's instrument and the pocket sphygmometer of Hill and Barnard only were employed. The results obtained with the latter, though as a rule agreeing roughly with the others, were found to be untrustworthy, so have been omitted from this paper. For these observations see Archives of the Middlesex Hospital, 1905, vol. vi

TABLE I.—RESULTS FOR WHICH STANTON'S INSTRUMENT WAS EMPLOYED.*

Series I.—Cases of Aneurysm.

No. of case.		St. R. max.	L. max.
		Mm.	Mm.
No. 1.—A male,† aged 45 years. Aneurysm of the arch of the aorta	22/1/06...	115	105
	29/1/06...	105	115
Digitally right radial pulse of higher tension than left	9/2/06	125	119
		125	125
	15/2/06	121	127
		114	122
	19/2/06	118	122
		124	129
No. 2.—A male, aged 31 years. Aneurysm of innominate artery	25/1/06...	108	110
Digitally no difference between radial pulses	2/3/06	102	125
		105	114
No. 3.—A male, aged 53 years. Aneurysm of arch of aorta	26/1/06...	129	147
No. 4.—A male, aged 51 years. Aneurysm of arch of aorta.			
Digitally no difference between radial pulses	24/1/06...	125	114
Digitally radial and carotid pulses equal on the two sides	21/2/06	122	117
		131	116
No. 5.—A male, aged 40 years. Aneurysm of arch of aorta. (Diagnosis confirmed by necropsy.)			
Digitally radial pulses equal	31/1/06...	128	119
Digitally radial pulses equal	10/2/06	102	106
		115	115
	16/2/06	124	126
		130	130
Digitally radial and carotid pulses on the two sides equal	6/3/06	103	103
		103	108
No. 6.—A female, aged 57 years. Aneurysm of innominate artery.			
Digitally right radial pulse of higher tension than left	24/1/06...	205	204
	7/2/06...	191	192
	13/2/06	182	179
		172	175
	21/2/06...	161	160
Digitally right radial pulse larger and of higher tension than left	9/3/06	182	171
		173	160
Digitally right radial pulse larger and of higher tension than left.	16/3/06...	159	154
Digitally right radial pulse of higher tension than left	23/3/06...	163	169
Digitally right radial pulse of rather higher tension than left	5/4/06	143	129
		132	142
Digitally radial pulses equal	19/4/06...	143	146
No 7.—A male, aged 46 years. Aneurysm of arch of aorta			
Digitally radial and carotid pulses on the two sides equal	14/2/06...	182	187
Digitally radial and carotid pulses on the two sides equal	21/2/06	162	172
		164	172
Digitally radial and carotid pulses on the two sides equal	28/2/06...	168	158
No. 8.—A male, aged 42 years. Aneurysm of arch of aorta. (Diagnosis confirmed by necropsy.)			
Digitally right radial pulse of slightly higher tension than left. Carotid pulses equal	7/5/06...	99	114
No. 9.—A male, aged 49 years. Aneurysm of arch of aorta.			
Digitally left radial and carotid pulses markedly larger than corresponding right ones	19/6/06...	73	148
	25/6/06...	103	160
Digitally left radial and carotid pulses markedly larger, and radial of higher tension than corresponding right ones	12/3/07	86	125
		86	122
		80	122
Digitally left radial and carotid pulses much larger, and radial of higher tension than corresponding right ones	21/3/07...	60	132
No. 10.—A male, aged 33 years. Aneurysm of arch of aorta	27/9/06...	130	110
	4/10/06	124	119
		122	118
No. 11.—A male, aged 50 years. Aneurysm of arch of aorta.			
Digitally radial and carotid pulses on the two sides equal	12/10/06	137	145
		134	144
Digitally radial and carotid pulses on the two sides equal	19/10/06	118	104
		115	103
		119	105
Digitally radial and carotid pulses on the two sides equal	26/10/06	105	119
		112	114
		105	113
Digitally radial and carotid pulses on the two sides equal	2/11/06	118	120
		110	112

TABLE I.—RESULTS FOR WHICH STANTON'S INSTRUMENT WAS EMPLOYED.

Series I. (Continued).—Cases of Aneurysm.

No. of case.		St. R. max.	L. max.
		Mm.	Mm.
No. 12.—A male, aged 45 years. Aneurysm of arch of aorta. (Diagnosis confirmed by necropsy.)			
Digitally right radial pulse larger and of higher tension than left one. Right carotid pulse larger than left one	9/8/06	148	150
Digitally right radial pulse of much higher tension than left, and right carotid pulse larger than left	11/10/06	149	154
		156	153
Digitally right radial pulse of much higher tension than left; right carotid pulse larger than left	12/10/06	149	145
		145	143
Digitally right radial pulse markedly larger than left one, and right carotid pulse larger than left	18/10/06	137	147
		151	143
	25/10/06	126	133
		142	132
Digitally radial and carotid pulses on right side feel much larger than corresponding ones on left	1/11/06	116	105
		119	115
	8/11/06	115	114
		113	112
No. 13.—A male, aged 58 years. Aneurysm of arch of aorta.			
Digitally left radial pulse much smaller than right. Left carotid pulse smaller than right	13/10/06	127	135
		135	138
No. 14.—A male, aged 54 years. Aneurysm of arch of aorta.			
Digitally radial and carotid pulses on the two sides equal	26/10/06	140	139
		141	133
No. 15.—A female, aged 45 years. Aneurysm of arch of aorta.			
Digitally right radial pulse much larger than left. Carotid pulses equal	9/11/06	128	127
		124	128
Digitally right radial pulse larger and of higher tension than left. Carotid pulses equal	16/11/06	132	125
		125	125
No. 16.—A male, aged 64 years. Aneurysm of arch of aorta.			
Digitally right radial pulse larger and of higher tension than left. Right carotid pulse larger than left	10/1/07	143	137
		133	123
Digitally right radial pulse rather larger and of higher tension than left. Right carotid pulse larger than left	17/1/07	148	153
		149	145
	15/2/07	146	153
		140	153
No. 17.—A male, aged 51 years. Aneurysm of arch of aorta.			
Digitally left radial pulse smaller and of lower tension than right. Left carotid pulse (?) smaller than right	4/3/07	122	122
		125	122
	6/3/07	111	104
		119	100
		115	114
		123	106
Digitally right radial pulse larger and of higher tension than left. Carotid pulses equal	8/3/07	105	112
		121	102
		112	100
		111	99
		122	110
Digitally right radial pulse larger and of higher tension than left. Carotid pulses equal	18/3/07	109	102
		110	100
Digitally right radial pulse larger and of higher tension than left. Carotid pulses equal	19/3/07	111	101
		113	98
		112	90
		111	98
		112	98
	20/3/07	105	97
		106	109
		101	109
		106	103
		99	102
		102	93
No. 18.—A male, aged 51 years. Aneurysm of arch of aorta.			
Digitally right radial and carotid pulses of higher tension than corresponding ones on left side	18/4/07	145	138
		142	135
		141	133
Digitally right radial and carotid pulses of higher tension than corresponding left ones.	25/4/07	132	129
		132	126
Digitally radial and carotid pulses on the two sides of equal tension	26/4/07	125	113
		115	105
		125	121
Digitally radial pulses on the two sides of equal tension	3/5/07	123	115
		122	115

TABLE I.—RESULTS FOR WHICH STANTON'S INSTRUMENT WAS EMPLOYED.

Series I. (Continued).—Cases of Aneurysm.

No. of case.		St. R. max.	L. max.
		Mm.	Mm.
No. 19.—A female, aged 51 years. Aneurysm of arch of aorta.			
Digitally radial and carotid pulses on the two sides equal	8/5/07	195	185
		195	186
		192	186
		192	188
		196	178
No. 20.—A male, aged 39 years. Aneurysm of arch of aorta.			
Digitally radial and carotid pulses on the two sides equal	14/5/07	125	126
		123	126
		128	132

* The readings taken of the minimum or diastolic pressure by Stanton's method have for the sake of brevity been omitted from this paper, as have also observations with Oliver's instrument which were made in some cases in order to institute a comparison between this instrument and that of Stanton.

† The same patient as No. 11 in the series in which Oliver's instrument was employed.

between the two sides of at least five millimetres, and but three of the 21 showed a difference of pressure between the two sides of at least 10 millimetres. Lastly, the fourth series in which none of these pathological conditions were present showed, in a majority of observations, in only two of the 10 cases a difference of pressure of at least five millimetres and in none a difference of pressure of at least 10 millimetres. A difference of pressure between the two sides of at least 20 millimetres only occurred on one or more occasions in two of the 20 cases of aneurysm (viz., Nos. 9 and 17), also in three of the 12 cases of dilated aorta (viz., Nos. 1, 7, and 8), and twice in the series of arterio-sclerosis and mediastinal growth (viz., Nos. 14 and 21), whilst a difference of pressure greater than 30 millimetres occurred in only one of the cases of aneurysm (viz., No. 9), in whom the greatest difference noted was 75 millimetres) and on no occasion in any case of the other three series.

Comparison of digital and instrumental observations.—In comparing the digital observations on the radial and carotid pulses on the two sides with the corresponding blood-pressure determinations I have excluded those cases of aneurysm in which digital comparisons of the two radial pulses at different times gave varying results, as such observations may perhaps not be trustworthy. This leaves us with the following 11 cases of aneurysm (viz., Nos. 4, 5, 6, 7, 9, 11, 12, 15, 16, 17, and 20) as the material for comparison, in any one of which be it noted digital comparison of the two radial pulses at different times always agreed. I have disregarded differences of pressure between the two

Series II.—Cases of Dilated Aorta.

No. of case.		St. R. max.	L. max.
		Mm.	Mm.
No. 1.—A male, aged 47 years	14/2/06	149	152
	28/2/06	135	145
	8/3/06	137	135
		129	132
	23/3/06	155	137
	6/4/06	144	124
		124	129
No. 2.—A male, aged 47 years. Chronic tubular nephritis	11/4/06	190	200
No. 3.—A female, aged 46 years	20/6/06	258	260
No. 4.—A male, aged 49 years	25/6/07	140	127
No. 5.—A male, aged 41 years	13/2/06	167	172
	16/3/06	156	150
		149	154
No. 6.—A male, aged 49 years	28/2/06	138	129
	9/3/06	145	123
		137	132
	16/3/06	126	123
		131	128
	14/2/07	137	126
No. 7.—A female, aged 52 years	22/3/06	219	234
	3/5/06	184	214
	14/2/07	209	210
No. 8.—A female, aged 43 years	26/4/06	231	205
No. 9.—A male, aged 51 years	25/10/06	232	230
		219	226
		211	192
	7/3/07	200	192
		205	194
No. 10.—A male, aged 62 years	2/11/06	132	121
		125	128
	16/11/06	142	135
		132	134
No. 11.—A female, aged 57 years	15/11/06	272	272
No. 12.—A male, aged 47 years	8/3/07	156	152
		161	149
		159	151

Series III.—Cases of Arterio-sclerosis and Mediastinal Tumour.

No. of case.		St. R. max.	L. max.
		Mm.	Mm.
No. 1.—A male, aged 63 years. Arterio-sclerosis	31/1/06	112	128
	7/2/06	138	137
No. 2.—A male, aged 42 years. Pulmonary tuberculosis, arterio-sclerosis	1/2/06	119	117
	3/2/06	113	100
No. 3.—A male, aged 35 years. Aneurysm of descending thoracic aorta, arterio-sclerosis ...	20/6/06	124	127
No. 4.—A male, aged 65 years. Chronic interstitial nephritis, arterio-sclerosis (diagnosis confirmed by necropsy)	8/2/06	163	170
No. 5.—A male, aged 26 years. ? Syphilitic glands pressing on left bronchus	13/2/06	111	102
		107	112
	9/3/06	97	102
		102	103
No. 6.—A male, aged 55 years. Arterio-sclerosis	14/2/06	122	125
		122	122
	20/2/06	109	111
		109	112
No. 7.—A male, aged 64 years. Arterio-sclerosis	5/3/06	173	178
		165	174
No. 8.—A male, aged 61 years. Arterio-sclerosis	9/3/06	127	120
		126	116
	15/3/06	129	122
		129	129
No. 9.—A male, aged 66 years. Aortic stenosis and incompetence, arterio-sclerosis	22/3/06	183	185
		203	198
No. 10.—A male, aged 62 years. Carcinoma of œsophagus (diagnosis confirmed by necropsy)	8/5/06	125	115
No. 11.—A female, aged 53 years. Gummatous fibrosis of myocardium. Chronic interstitial nephritis, arterio-sclerosis (diagnosis confirmed by necropsy)	5/6/06	213	213
No. 12.—A male, aged 60 years. Pulmonary tuberculosis, arterio-sclerosis	6/4/06	203	184
		194	184
	3/5/06	199	183
		178	170
	22/2/07	194	185
No. 13.—A male, aged 56 years. Mediastinal new growth	24/5/07	115	120
No. 14.—A male, aged 47 years. Chronic interstitial nephritis, arterio-sclerosis	16/10/06	215	243
No. 15.—A male, aged 29 years. Chronic tubular nephritis, arterio-sclerosis	16/10/06	150	145
		157	145
No. 16.—A male, aged 48 years. Chronic interstitial nephritis, arterio-sclerosis	22/10/06	193	191
		199	195
No. 17.—A male, aged 65 years. Diabetes mellitus, arterio-sclerosis	23/10/06	152	155
		155	149
No. 18.—A male, aged 72 years. Hemiplegia, arterio-sclerosis	25/10/06	175	173
		174	174
No. 19.—A male, aged 43 years. Arterio-sclerosis	30/11/06	92	85
		92	90
No. 20.—A male, aged 53 years. Chronic interstitial nephritis, arterio-sclerosis	26/1/07	209	216
		210	217
No. 21.—A male, aged 38 years. Arterio-sclerosis (diagnosis confirmed by necropsy)	24/2/06	270	290
	8/3/06	269	268
	15/3/06	255	254
	21/3/06	274	277
		270	274

sides of less than five millimetres. In five of these cases (viz., Nos. 9, 15, 16, 17, and 20), the digital comparisons of the radial and carotid pulses on the two sides agreed fairly well with the corresponding blood-pressure determinations. In five of the remaining six cases, however (viz., Nos. 4, 5, 7, 11, and 12), digital comparisons of both radial and carotid pulses on the two sides invariably yielded results at variance with those obtained by blood pressure measurement. In four of these the digital results indicated no difference when blood-pressure measurement showed that there was one, whilst the fifth case (No. 12) yielded a difference between the pulses as examined digitally when the instrument showed that none existed. In the remaining case (No. 6), in two observations digital comparison of the two radial pulses gave results agreeing with those obtained by the instrument; in one observation a difference was found digitally when the instrument showed that none existed, and in one observation a difference was found digitally but in the opposite direction to that shown by the instrument. Thus in more than half the cases digital examination of the radial pulses (although checked by the carotid pulses) yielded results which were either simply useless or else actually misleading.

Series IV.—Pathological conditions other than those included in the first three series.—So few of these cases showed a distinct difference of pressure between the two sides that I have not here given the results.

TABLE II.—RESULTS FOR WHICH OLIVER'S INSTRUMENT WAS EMPLOYED.

Series I.—Cases of Aneurysm.

No. of case.	O.R.	L.
	Mm.	Mm.
No. 1.—A male, aged 57 years. Aneurysm of descending thoracic aorta involving the arch ... ... 19/5/04...	98	75
No. 2.—A male, aged 45 years. Aneurysm of descending thoracic aorta involving also the arch 22/3/04...	95	70
30/3/04...	85	70
13/5/05...	122	83
No. 3.—A female, aged 60 years. Aneurysm of arch of aorta ... ... 22/3/04...	105	120
30/3/04...	85	85
No. 4.—A male, aged 44 years. Aneurysm of arch of aorta ... ... 29/4/04...	93	78
16/6/04...	73	58
No. 5.—A male, aged 40 years. Aneurysm of arch of aorta... ... ... 14/6/04...	95	85
30/8/04...	67	83
No. 6.—A male, aged 44 years. Aneurysm of arch of aorta ... ... 12/8/04...	80	100
No. 7.—A male, aged 50 years. ? Aneurysm of arch of aorta ... ... 11/10/04...	90	105
No. 8.—A female, aged 43 years. ? Aneurysm of arch of aorta ... ... 1/2/05 ...	107	107
No. 9.—A male, aged 32 years. Aneurysm of arch of aorta ... ... 16/5/05...	110	125
No. 10.—A male, aged 48 years. Aneurysm of arch of aorta	85	85
No. 11.—A male,* aged 45 years. Aneurysm of arch of aorta ... ... 11/5/05...	107	120
24/5/05...	124	100
5/7/05...	83	93

* The same patient as No. 1 in Table I., Series I.

Series II.—Cases of Arterio-sclerosis and of Mediastinal Tumour.

No. of case.	O.R.	L.
	Mm.	Mm.
No. 1.—A male, aged 53 years. Arterio-sclerosis 13/4/04...	100	100
No. 2.—A male, aged 47 years, malignant stricture of œsophagus (diagnosis confirmed by necropsy). 3/6/04...	75	75
No. 3.—A male, aged 63 years. Mediastinal new growth (diagnosis confirmed by necropsy) ...30/11/04...	78	77
No. 4.—A female, aged 64 years. Dilatation of arch of aorta ... ... 9/12/04...	114	114
No. 5.—A male, aged 58 years. Arterio-sclerosis 16/12/04...	134	132
No. 6.—A male, aged 62 years. Arterio-sclerosis, aortic valvular disease ... ... 23/2/05...	75	93
No. 7.—A male, aged 72 years. Arterio-sclerosis 7/3/05...	57	57
No. 8.—A male, aged 67 years. Arterio-sclerosis 9/3/05...	70	70
No. 9.—A male, aged 45 years. Mediastinal new growth ... ... 15/3/05...	93	92
No. 10.—A male, aged 69 years. Arterio-sclerosis 27/5/05...	113	113

Comparison of blood pressure in cases of aneurysm with that in cases of dilated aorta.—The average systolic pressure (average age 47 years), calculated from all the cases of aneurysm, was 134 millimetres and the average diastolic pressure was 100 millimetres. On the other hand, the average systolic pressure calculated from all the cases of dilated aorta (average age 49 years) was 185 millimetres and the diastolic pressure was 128 millimetres.[7] Thus the average systolic pressure in the cases of aneurysm is normal or slightly above normal, but in the cases of dilatation of the aorta is considerably raised. These facts point to the conclusion that mere height of blood pressure is a more important cause of dilatation of the aorta than of actual aneurysm, and that in the causation of the latter it is necessary to invoke some additional factor.

Observations in which Oliver's instrument was employed.—A marked difference of pressure between the two sides was shown in nine of the 11 cases of aneurysm (No. 11 was the same patient as No. 1 in the Stanton series), but only in one of the ten instances of conditions other than aneurysm (cases of mediastinal tumour, dilatation of the aorta, or of arterio-sclerosis).

Results.—These are recorded in millimetres of mercury and the following abbreviations are used: St. = Stanton's blood-pressure instrument; O. = Oliver's hæmo-dynamometer; max. = maximum or systolic pressure; R. = arterial blood pressure in right brachial artery (with Stanton's instrument) or radial artery (with Oliver's instrument); and L. = arterial blood pressure in the left brachial artery (with Stanton's instrument) or radial artery (with Oliver's instrument).

My cordial thanks are due to the physicians of the Middlesex Hospital and to Dr. G. A. Heron, Dr. E. Clifford Beale, Dr. T. Glover Lyon, Sir Hugh R. Beevor, Dr. W. J. Hadley, Dr. E. H. Colbeck, and Dr. Hugh Walsham for allowing me to use for this paper the records of cases under their care and to Dr. Walsham for the trouble he has kindly taken in examining by the x rays a large number of the patients.

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[7] Inasmuch as a large proportion of the readings from which these numbers were calculated were taken from patients who were under treatment in hospital it is probable that the results err on the side of being too low.

A CONTRIBUTION TO BACTERIOLOGICAL ANALYSIS OF MATERIALS POLLUTED WITH THE BACILLUS TYPHOSUS.

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THE value of Löffler's discovery[1]—viz., that malachite green added to nutrient gelatin or agar in high dilutions, while capable of inhibiting the growth of bacillus coli, does not interfere with the growth of bacillus typhosus—has since been tested and confirmed by several observers (Kiralfi, Doebert, and others). That in analysing materials presumably polluted with typhoid dejecta the use of such a medium, representing a considerable step in advance of the Drigalski medium, would be of great value, must be obvious. Like all intestinal dejecta, so also those of typhoid fever contain in predominating numbers the bacillus coli and therefore the suppression or retardation of the growth of the latter which all media hitherto in use are incapable of effecting but which Löffler's malachite green is capable of doing, is a most important desideratum in discovering in materials polluted with such dejecta the presence of the bacillus typhosus. Unfortunately, however, the malachite-green gelatin or agar plates could detect only those individuals of bacillus typhosus which are actually present in the

[1] Deutsche Medicinische Wochenschrift, No. 8, 1906.

materials to be analysed, and as the number of these bacilli, as is proved by the many negative results, can only be, and generally is, extremely limited, the difficulty of discovering these few individuals even in large amounts of material—shell-fish, water, milk, &c.—subjected to analysis must still remain considerable even with the use of malachite-green plates. For these no less than the Drigalski plates postulate for success the presence in the materials to be analysed of a fair number of bacillus typhosus, so that the colonies of these latter—those of bacillus coli being prevented—could be found in a reasonable amount of the incriminated material distributed in a reasonable number of plates. The German observers speak of "enrichment" (*Anreicherung*) if in these plates the colonies—i.e., aggregations—of bacillus typhosus make their appearance, but on consideration this is not a true enrichment because in these plates colonies of bacillus typhosus could only make their appearance in proportion to the number of the individual bacillus typhosus present originally in the materials. The word "enrichment" should be applied only if the original number of bacillus typhosus in the material could be increased at starting so as to allow the very small number originally present to become by some means greatly increased without a corresponding increase of other associated microbes—e.g., bacillus coli—for then a plate made even of small amounts of this "enriched" material would readily denote in the malachite-green gelatin or agar plates, or for that matter in the Drigalski plates, the presence of colonies of the bacillus typhosus. Such "enrichment" in the real sense occurs, for instance, in the case of bacillus coli by means of MacConkey's bile salt media, in the case of vibrio choleræ by means of Dunham's peptone salt water. But nothing of this kind—that is, no real enrichment—can be expected in the malachite-green gelatin or agar plate, for, as mentioned above, these plates can only denote as colonies those individuals of bacillus typhosus that are present in the original materials and, as is known to every analyst, the number of these, being extremely small, the use of the malachite-green gelatin or agar plate, though valuable, as has been shown, nevertheless would be incapable of removing the chief difficulty—viz., the original great scarcity.

It occurred to me to attempt by means of Löffler's malachite green to produce a real "enrichment"—that is, an enrichment in the sense in which Dunham's peptone salt water is a means of increasing the number of vibrio choleræ, even when these are present in very small numbers in the the cholera dejecta. The first step was to use fluid culture media, for only here a real enrichment could be expected, and to add to the fluid medium the malachite green in the proportion required to inhibit or to retard the growth of bacillus coli without, of course, interfering with the growth of the bacillus typhosus. But here, again, it had to be borne in mind that it is also necessary to cause in this fluid medium the exclusion, retardation, or limitation of the growth of other microbes not belonging to the coli typhoid group; for working with malachite-green agar plates it became clear that a number of microbic species, not of the coli typhoid group, are capable of growing in such plates—e.g., bacillus putidus, some species of proteus, and others, usually present in sewage and in intestinal dejecta or in materials polluted with them. For this purpose the addition of bile salt proved very useful. I therefore started with bile-salt broth to which malachite green was added in definite and different proportions and it was soon seen that by means of bile salt added to the broth, as is well known, the growth of the coli typhoid group of microbes is eminently favoured, while the further addition of malachite green is capable of restricting this favour, if not solely at any rate largely, to the bacillus typhosus. When by this bile salt broth malachite green an enrichment of the bacillus typhosus has taken place, then, as a second step, Drigalski medium solidified in large plates was inoculated on its surface with a small amount, a loop or two, and incubated. In such plates the presence of colonies of bacillus typhosus could readily be recognised and the necessary further tests be applied, as examination in the hanging drop test for agglutination with typhoid serum in high dilution, subculture in gelatin (surface and shake) in MacConkey fluid, in litmus milk, in neutral red broth, in lactose-peptone water, and in Proskauer and Capaldi medium.

In the experiments which I made with the bile salt broth malachite green an important difference was noticed at the outset between it and the corresponding Löffler malachite green agar plates—viz., that while these latter exhibited a restraining influence on the bacillus coli in high dilutions such as 1 malachite green in 5000 agar, the bile salt broth malachite green, although not interfering with the growth of bacillus typhosus, did not show the same restraining action on the bacillus coli in the above high dilutions. This is evidently due to the fact that the bile salt rather stimulated the growth of the bacillus coli, as it does the growth of other intestinal bacteria. It was therefore necessary to increase in the bile salt broth the strength of malachite green, for only if the amount of this latter has reached the point at which it could restrain the growth of the bacillus coli without interfering with that of the bacillus typhosus could the original object—viz., the enrichment of this latter microbe—lead to a positive result. Amongst some of the experiments made in this direction the following may be quoted. 1 inoculated with bacillus coli the surface of Löffler's malachite green agar, solidified in large plates, and for control bile salt broth malachite green in tubes, in both instances the dilution being 1 malachite green to 5000. The result was this: the malachite green agar plates showed on incubation for 48 hours no colonies; the broth tubes showed good growth which by subculture in Drigalski medium proved pure culture of the bacillus coli. But even in bile salt broth to which malachite green was added in proportion of 1 in 3500 there was still growth of the bacillus coli; the companion tubes—1 in 5000 and 1 in 3300 respectively—inoculated with bacillus typhosus showed in all instances good growth.

In these, as also in the subsequent experiments to be detailed presently, the growth of bacillus coli in the bile salt broth malachite green caused a rapid change in the fluid from the original bright blue-green colour to at first a faded pale green, then to a completely discoloured fluid, whereas those of bacillus typhosus produced a much slower change of colour; even after some days' incubation the fluid was still distinctly greenish to pale green-blue. After the preliminary experiments, to bile salt broth malachite green was added in larger proportion than 1 to 3300. These experiments will now be detailed.

Experiment 1.—Prepared bile salt broth by adding sodium taurocholate to faintly alkaline beef broth, 5 cubic centimetres of a 5 per cent. watery solution of bile salt to 400 cubic centimetres of broth, then added Löffler's malachite green (malachite green No. 120, Höchst Dye Works) in the proportion of 1 malachite green to 2500 and 1 to 1650 respectively. Decanted in tubes each containing 10 cubic centimetres steamed and sterilised. Of each set two tubes (1 in 2500 and 1 in 1650) were inoculated with a trace of bacillus coli and two similar tubes with a trace of bacillus typhosus and then incubated at 37° C. After 24 hours' incubation the inspection showed that there was no growth in the coli tube 1 in 1650, slight growth in the coli tube 1 in 2500, while good growth was present in both the typhoid tubes 1 in 1650 and 1 in 2500. Subcultures were made on Drigalski plates with a single loop. Both plates, after 24 hours' incubation at 37° C., yielded numerous colonies of bacillus typhosus; colonies distinctly blue in semi-transmitted light, violet in centre when looked at in reflected light; margin filmy, slightly irregular, crenate; centre thick and raised, surface somewhat dry-looking, very finely granular in transmitted light; under the microscope in the hanging drop bacilli cylindrical, very motile, agglutinate with typhoid serum in dilution of 1 to 50–100 within few minutes.[2] The coli plate 1 in 2500 had a very limited number of colonies of bacillus coli, while that of the coli tube 1 in 1650 yielded no colonies at all.

From this experiment it follows that the bile salt broth malachite green 1 in 1650 produced in 24 hours' incubation at 37° C. good growth of bacillus typhosus, while the same strength of malachite green—viz., 1 in 1650—completely inhibited that of bacillus coli.

Experiment 2.—To 10 cubic centimetres of sterile distilled water added a loop from an agar growth each of bacillus coli and of bacillus typhosus. After well shaking the mixture inoculated with a loop one tube (A) of bile salt broth malachite green 1 in 2500 and one ditto tube (B) of 1 in 1650. After 24 hours' incubation at 37° C. none of the tubes seemed to show any growth (as was proved by subculture on Drigalski plates). After 48 hours' incubation there seemed to be good growth in the tube 1 in 2500 malachite green, but no growth in that of 1 in 1650 malachite green. Made Drigalski plates with this result: plate made of A tube (1 in 2500 malachite green) numerous colonies, pure growth of bacillus typhosus, no colonies of bacillus coli; plate made of B tube (1 in 1650 malachite green) no colonies.

From this experiment it follows that here 1 in 2500 malachite green inhibited bacillus coli but allowed good growth of bacillus typhosus.

Experiment 3.—To 10 cubic centimetres of domestic sewage (containing at least 100,000 bacillus coli communis per 1 cubic centimetre) added a loop of bacillus typhosus from a 48 hours old agar culture. After well shaking the mixture added one loop to one tube (A) of bile salt broth malachite green 1 in 2500, and to one tube (B) of bile salt broth malachite green 1 in 1650. After 24 hours' incubation at 37° C. made Drigalski plates of each tube with one loop. The result was: Plate

[2] Klein: The Vitality of Bacillus Typhosus in Oysters and other Shell fish. Report to Fishmongers' Company, 1905.

made from tube A showed numerous colonies of bacillus coli and numerous blue colonies, easily detected, for in many places they were quite separate and isolated; these had all the appearances of colonies of bacillus typhosus: in the hanging drop they were typical, when tested with typhoid serum in dilution 1 in 100 clumping was instantaneous. Subcultures in the different media proved them to be bacillus typhosus. The Drigalski plate made from tube B (1 in 1650 malachite green) exhibited crowds of blue colonies (bacillus typhosus) and a very limited number of red colonies with red halo—i.e., bacillus coli communis.

So that in this experiment the great number of bacillus coli present in the original fluid (at least 100,000 per 1 cubic centimetre) did not interfere with the multiplication of the added bacillus typhosus; in fact, in the tube B (1 in 1650 malachite green) it was by far the predominating growth.

Experiment 4.—To 10 cubic centimetres of domestic sewage (at least 100,000 bacillus coli communis per 1 cubic centimetre) added a trace of bacillus typhosus. 10 cubic centimetres of distilled water to which the same amount of bacillus typhosus culture had been added showed just the faintest sign of turbidity; so that the amount of bacillus typhosus added to the 10 cubic centimetres of sewage was indeed very small. With a loop of the sewage typhoid mixture inoculated one tube (A) bile salt broth malachite green 1 in 1600, and another tube (B) bile salt broth malachite green 1 in 1500. Incubated for 24 hours at 37° C. tube A shows good growth with gas, tube B seems to have little if any growth. Made Drigalski plates with one loop from each tube. The result was this: plate from tube A (malachite green 1 in 1600) shows numerous colonies of bacillus coli (red with red halo); plate from tube B (malachite green 1 in 1500) has 21 (blue) colonies of bacillus typhosus, and about 50 to 60 small violet colonies (streptococci), but no red colonies of bacillus coli. The blue colonies of plate B were tested by agglutination, in hanging drop, and in the other media—gelatin, MacConkey fluid, neutral red broth, litmus milk, lactose-peptone water, and proved typical bacillus typhosus.

In this experiment, then, from sewage containing a mere trace of bacillus typhosus the enrichment of this microbe in, and recovery from, bile salt broth malachite green 1 in 1500 was easy, but it did not succeed from bile salt broth malachite green 1 in 1600.

Experiment 5.—The semi-fluid stool of a case of typhoid fever about the end of the third week (a female patient in Elizabeth Ward of St. Bartholomew's Hospital) was used thus: one loop of this stool was planted in bile salt broth malachite green 1 in 1600 (tube A), and one loop in bile salt malachite green 1 in 1500 (tube B). After 24 hours' incubation at 37° C. both tubes show growth. With one loop of each made a large Drigalski plate and incubated at 37° C. After 24 hours plate from tube A shows amongst a large number of neutral large colonies smaller blue colonies, easily recognised by their colour and aspect as those of bacillus typhosus. In hanging drop cylindrical motile bacilli clump instantly with typhoid serum in dilutions of 1 in 50 and 1 in 100; in addition to these in the marginal part of the plate some red colonies with red halo (bacillus coli) could be recognised. Plate from tube B contains no red colonies; only some neutral large colonies and numerous blue colonies of bacillus typhosus. Subcultures were made of the blue colonies of both plates and complete proof was obtained that we were dealing with the true bacillus typhosus.

From this experiment it is evident that in this case the bile-salt broth malachite green was of decided value.

Experiment 6.—Milk was bought in a small shop; it contained about 1000 bacillus coli communis per 1 cubic centimetre. To 100 cubic centimetres of this milk bile salt (sodium taurocholate) was added in the same proportion as in the former experiments, and malachite green in the proportion of 1 malachite green in 1500. Then to 10 cubic centimetres of sterile water added one loop (2 milligrammes) of a typhoid culture; the resulting emulsion was very faintly turbid. Of this fluid added one loop (2 milligrammes) to the above 100 cubic centimetres of milk; this was then incubated at 37° C. After 24 hours' incubation, plated on Drigalski medium one loop of the infected milk. This Drigalski plate on inspection after 24 hours' incubation showed, amongst neutral colonies, a large number of small blue colonies of the appearance of typhoid colonies. In the hanging drop and in agglutination test they complied with those of bacillus typhosus. Subcultures were made and their identity with bacillus typhosus was established.

Here, then, the proof of enrichment of bacillus typhosus in the bile-salt malachite-green milk (1 in 1500) was shown in a decided manner; there was no enrichment of bacillus coli, although the original milk was rich in this latter microbe.

Experiment 7.—This experiment is of special interest as it shows that there is no difficulty in recovering by this method the bacillus typhosus from specifically infected oysters. 12 native oysters (bought in a small shop) were placed in a tank containing 3000 cubic centimetres of sea water, as delivered by the Great Eastern Railway Company (Lowestoft). To 10 cubic centimetres of domestic sewage (St. Bartholomew's Hospital), containing at least 100,000 bacillus coli communis per 1 cubic centimetre, one loop (2 milligrammes) of typhoid culture was added, well shaken, and poured into the tank and well distributed in the 3000 cubic centimetres of sea water. The oysters were quite fresh and active, since within a quarter of an hour they all opened, emitting plenty of air bubbles. Next day six oysters that were found well closed were taken out, well brushed and washed under the tap, and then opened. After draining off the liquor within the shell as much as possible the bodies were placed into a sterile dish and well minced. The total amount of turbid fluid obtained from the minced material of the six oysters was about 12 cubic centimetres. Three tubes, each containing 10 cubic centimetres of bile-salt broth malachite green (1 in 1500), received each ¼ cubic centimetre of the above oyster fluid and were then incubated at 37° C. Next day all showed good growth. Of each of these tubes one large Drigalski plate was made with one loop and incubated at 37° C. After 24 hours one of these plates (No. 1) showed numerous blue colonies of the nature and appearance of typhoid colonies; the other two plates (Nos. 2 and 3) were negative qua-typhoid colonies. Of Plate 1 several of the blue colonies were selected for examination in the hanging drop and for agglutination test; both tests positive for bacillus typhosus. Subcultures fully confirmed the preliminary diagnosis.

We see, then, that a positive enrichment of the bacillus typhosus taken up by the six oysters was effected in one out of three bile-salt broth malachite-green tubes, which was quite sufficient for identification.

St. Bartholomew's Hospital.

A FATAL CASE OF CHOREA ASSOCIATED WITH DOUBLE OPTIC NEURITIS AND HYPERPYREXIA IN A CHILD, AGED THREE AND A HALF YEARS.

BY GEORGE CARPENTER, M.D. LOND.,
MEMBRE CORRESPONDANT DE LA SOCIÉTÉ DE PÉDIATRIE DE PARIS; PHYSICIAN TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

AT a meeting of the Society for the Study of Disease in Children held on Nov. 15th last the notes of a case of rheumatic hyperpyrexia occurring in a child, aged six years, were read by Dr. G. H. Lock. The extreme rarity of rheumatic hyperpyrexia occurring in one so young was commented upon, as also the paucity of the literature in relation to that complication. In the discussion that followed I related that I also had had experience of such a complication in a child even younger still—a girl, aged three and a half years, with chorea, which I had not yet published, but that in the interim I would look up the notes and report to the society at its next meeting. As rheumatic hyperpyrexia is so exceedingly rare in the young the following notes of the case may prove of *general* interest as well as to the members of the Society for the Study of Disease in Children, and I therefore take this opportunity of placing it on record. During an experience of over 20 years of children's ailments this is the solitary example of rheumatic hyperpyrexia that has come under my notice. At the time of the fatal onset the child was not obviously suffering from rheumatic fever, but her illness commenced with that complaint; it was followed a fortnight after by chorea, and when I saw her she had mitral disease and rheumatic nodules. One can therefore with some show of reason attribute the hyperpyrexia to a fatal and additional dose of the rheumatic poison.

A female, aged three and a half years, some six weeks before I saw her, which was in June, 1890, suffered from swollen hands and feet. 14 days after this attack she developed choreic movements which were general. When I saw her she spoke with difficulty and the movements were most marked in the face. They were much worse when she was being watched. She had a mitral bruit and there were numerous subcutaneous nodules of the size of a bean on the back of the head and about the ankles and feet. The temperature was 100° F. A full diet was ordered together with two minims of Fowler's solution three times daily, to be increased by drop doses every other day. On July 10th the arsenic mixture, which had reached ten minim doses, was stopped because of conjunctival irritation and a discharge from the eyes. By August 2nd she had wasted considerably and there was pityriasis tabescentium. The subcutaneous fibrous nodules had disappeared. The mitral bruit was then very harsh and distinct. There was double optic neuritis. She was taking her food badly and was languid and drowsy, but the choreic movements were less. Her morning temperature on this date, which had been previously subnormal, was found to be 101·6° and by midnight it had reached 106°. She was quite conscious until 4 P.M. on the 2nd when she became delirious. The movements at this time were greatly augmented. The face was flushed and the skin was hot and dry. A three-grain dose of antifebrin was given at 7 P.M., repeated at 9.40 P.M. and again at 12 midnight. Apart from the production of much sweating at the back of the neck the drug did not materially alter the condition. At 1 A.M. on the following day the temperature had fallen a little more than 2°, but quickly ran up to 106·4° at 2 A.M., when she was sponged, which reduced the temperature to 103·8°. During this period the breathing was rapid, the face was

livid, and the lips were blue, and she swallowed with difficulty. She died at 4 in the morning.

Necropsy.—There was slight thickening of the mitral valve. Peyer's patches were injected but the intestines were otherwise quite normal. The brain was normal.

Welbeck-street, W.

IS BUBONIC PLAGUE STILL LURKING IN THE CITY OF GLASGOW?

BY THOMAS COLVIN, M.D. GLASG.,

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IN August, 1900, the inhabitants of Glasgow were startled by the announcement that plague had appeared in their midst after an absence of 235 years from the shores of the British Isles. The first detected cases were three patients whom I sent into Belvidere, the city hospital for infectious diseases, from 57, Thistle-street, on the south side of the river Clyde, with a provisional diagnosis of an acute infectious malady simulating enteric fever. These cases were ultimately proven to be clinically, pathologically, bacteriologically, and experimentally bubonic plague. In all 36 cases were traced and of these 16 died, which gave a mortality of 44·4 per cent. The last patient was discharged from Belvidere on Nov. 3rd, 1900, and ten days later Glasgow was declared free from plague. The origin of the outbreak was never discovered and the rats which infested the area where the disease appeared were on examination found free from plague.

A year later, in August, 1901, two cases, which were no doubt plague, occurred in the plague-infected area of the previous year. For a clinical note of these cases I am indebted to Mr. Robert Murdoch. He states that on August 23rd, 1901, he was called to see a boy, aged 12 years, in Crown-street, who was extremely ill, with a febrile temperature, and a painful swelling in his groin. No wounds or abrasions of any kind were seen on the boy's leg to account for the bubo. Two days later the boy's father took suddenly ill with the symptoms of an acute pneumonia only with this characteristic difference—that instead of the usual rusty sputum of simple pneumonia he coughed up at intervals pure blood. He died suddenly after two days' illness. Mr. Murdoch, becoming suspicious of plague, consulted Dr. John Stewart and both gentlemen were of opinion that the boy had bubonic plague and that the father had died from pneumonic plague. Dr. A. K. Chalmers, the medical officer of health, was at once communicated with and the boy and the dead body of his father were removed to Belvidere. Every one who was known to be in contact with these cases was removed to the sanitary reception house, and the man's house and his rag-store, where the infection was presumed to have been caught, were disinfected in the same manner as was done the previous year in plague cases.

It was a knowledge of these two cases which I only learnt incidentally from Dr. Stewart many months after their occurrence that gave me the key to the solution of the origin of an outbreak of plague in Liverpool that happened two months later, or in October, 1901. At the time I was deeply interested in this outbreak, for I was asked by Dr. Chalmers to give him a report of an illness of a patient of mine, in whose house two Liverpool ladies had stayed for three days and on their return home sickened with plague, one of them dying from that disease. I have carefully studied every known fact connected with this outbreak, including the official report for which I am indebted to Dr. E. W. Hope of Liverpool, and including also correspondence with the young lady, who is still in Liverpool, who unconsciously carried the infection from Glasgow into that city, and I now submit evidence that is strongly presumptive that the contagion was conveyed from the one place to the other by infected clothing.

On August 15th, 1901, I was called to see a young woman who had an indefinite illness. She had nausea and vomiting, a febrile temperature, and extreme prostration, but the only definite symptom was an acute pain in the left iliac region. Even to this day she is certain of the site of the pain, for among other remedies tried to soothe the pain was a fly-blister applied over its region. She had no buboes nor did she complain of pain in her axillæ or in her groins. There was no vaginal discharge and on bimanual examination nothing definite could be made out. The only diagnosis that I could make at the time was an acute ovaritis or some obscure uterine affection. In reviewing that diagnosis in the light of Mr. Murdoch's cases the following most suggestive facts are to be noted. 1. An isolated case of plague occurring in a city which is supposed to be free from plague would never suggest plague when no apparent buboes are present. It is the association of two or more cases that puts the medical man on the alert. 2. This case occurred in Adelphi-street, about 100 yards from Thistle-street, and in the plague-infected area of the previous year. 3. It occurred about the same time as Mr. Murdoch's cases in the latter part of August. 4. Acute ovaritis according to Galabin and other writers is a very rare affection, and as a rule follows septic mischief after delivery or abortion or gonorrhœa. My patient had not the slightest evidence of any of these three conditions. Moreover, she was the very antithesis of those neurotics who often complain of ovarian pain, for she never had a day's illness before, unless during confinement, nor has she ever been ill since and is at present in excellent health. 5. Simpson states that the chain of glands and lymphatics in the abdominal cavity may be affected and form a painful iliac bubo which is tender to pressure. If on the right side the condition may be mistaken for acute appendicitis. The iliac bubo may occur without any apparent enlargement of the inguinal glands. The previous history of this case, the clinical symptoms, and the after-history all point to an iliac bubo and not to acute ovaritis.

Now it was during the week that my patient was ill that her two friends from Liverpool stayed three days with her. Although they did not occupy the same bedroom, for there were five apartments in the house, they were in most intimate contact with the patient. On Sept. 21st, or about four weeks later, their mother sickened and died from plague after an illness of seven days with buboes in her axillæ. On Sept. 22nd one of the girls sickened and died from plague nine days later with axillary buboes. On Sept. 24th the other girl sickened with plague with a bubo in her groin and she recovered. A woman who assisted in laying out the mother's body also died from plague, while four children living in an adjoining house sickened with plague, three of whom died. Now as the mother was never in Glasgow and she was the first to sicken the infection was indirect, and direct infection was also excluded by the date of sickening, for the average maximum incubation period of plague is ten days. But the mother superintended the washing and laying aside of the clothes worn in Glasgow and thus caught the infection, and having evidently developed a virulent form of the disease infected her two daughters.

In proof of the contagiousness of the clothing I elicited a most important fact. Between the sickening of these three cases and the sickening of the four children nearly a month had elapsed, so here again the infection was indirect. But the very week that two of these children sickened their mother was wearing a blouse that had been given to her by one of the girls who had been to Glasgow, for the girl's mother being dead and the blouse being of a bright colour she could not wear it herself, for she was in mourning. The last time this blouse was worn by the girl was in Glasgow when in immediate contact with her friend, who was ill presumably with plague, for the blouse was never worn by her after she sickened with plague on account of her mother's death. I made strict inquiries whether the blouse had been washed or cleaned before being worn by the mother of the children and received a negative reply, for the blouse was silk and a new one and only worn in Glasgow.

Cantlie relates that plague in 1900 was introduced into Durban from Mauritius in a way similar to what I have described. A family of six came from a plague-infected part in Mauritius into Durban. Two months after their arrival one of their sons opened a deal box which contained some soiled linen that the family had brought with them which had not been previously opened and the lad died two days later from bubonic plague. Simpson also relates many cases of clothing being a carrier of plague and many of the cases of plague in China were traced to the practice of the Chinese wearing the clothes of those who had died from that disease. One of the cases in the Glasgow outbreak in 1900 was the wife of a man who was employed in Belvidere in disinfecting and removing clothes from plague houses. As this woman lived fully a mile from the plague-infected area and had no association with any known plague

cases her husband must have carried the infection into their home either by his clothes or in his hair.

I may add that the Liverpool outbreak did not occur in the slums of Liverpool but in a good-class locality and the only other theory of its origin besides the Glasgow infection was that a policeman who lived with the mother and daughters who first sickened of plague might have been the carrier of the infection, for he was employed at the mortuary at Princes Docks. Against this theory was the fact that there was not even a shadow of a suspicion that the said policeman had handled a body of anyone who had died from plague.

At the end of October, 1901, there was a recrudescence of plague in Glasgow, four patients being found in the Central Station Hotel, while other two in association with them sickened of the same disease. These cases were well known to the public and I believe that a connexion was traced between them and Mr. Murdoch's cases. From then up till August, 1907, I am not aware of any cases of plague occurring in Glasgow. During the past three months (August, September, and October) there has been another recrudescence of plague in the city. There is a difference of opinion about the number of cases. The Health Department of the city only admit the existence of two cases, while in my opinion there have been nine cases, and of these five were children who died from septicæmic plague. In a subsequent issue of THE LANCET I shall publish full clinical notes of these cases along with my reasons for considering them plague. This second recrudescence of plague simply confirms our modern experience of the disease, that when it attacks a community it has a tendency to linger and to recur in the said community. Another important fact is that my cases in 1900 occurred in the latter half of August, Mr. Murdoch's cases and my case that infected Liverpool occurred in the latter half of August, 1901, while the first case of the latest recrudescence occurred in the latter part of August, 1907, thus bearing out what Simpson has stated that plague recurs in the same locality at the same season of the year, and even in epidemics, while sporadic cases may occur all the year around; the wave of epidemicity reaches its height at a particular season of the year for each particular locality. The practical value of this observation is to be specially on the alert for plague at the season of the year it first appeared in any community.

A few remarks on the infectivity of plague in Great Britain in the light of our modern experience of it may not be out of place here. When the second outbreak of plague took place in Glasgow in 1901 I wrote an article for the *Glasgow Herald* on the infectivity of the disease so as to allay the public mind. In that article I pointed out that in the original outbreak in 1900 there was not the shadow of a doubt that plague was in the city at least three weeks before its presence was suspected or even dreamt of. During that period a whole population of 800,000 were exposed to its infection, yet the net result was only 36 cases. In the Central Station Hotel outbreak the three servants were ill for several days before the disease was detected, and 200 employees and 300 guests were exposed to the infection, yet the net result was six cases. In the Liverpool outbreak in 1901 the family with typical buboes were ill five weeks before detection and the whole city of 700,000 inhabitants were exposed to infection, yet the net result was nine cases. In an outbreak in Leith in May, 1905, for an official report of which I am indebted to Dr. W. Robertson, the four patients were ill for several days before the true nature of the disease was diagnosed, yet the net result was only four cases confined to one family.

I have observed some striking instances of immunity to plague. In one of my cases in 1900 a young woman was ill with plague for 18 days before I was asked to see her. During that time her mother, who was 58 years of age, slept with the plague patient, ate the food that the plague patient was unable to eat and which was handled by the plague patient, and for the whole 18 days there was the most intimate contact between the mother and her plague-stricken daughter, for they occupied a single apartment, yet the mother never sickened of plague and died five years later from a simple pneumonia. In the Liverpool outbreak, while the two girls were evidently immune to direct infection while in Glasgow and immune to the contagion they carried with them to Liverpool, yet the said contagion was able to infect their mother and she must then have developed a more virulent form of the disease, for it infected both girls and caused the death of one of them. Many similar examples could be cited and this brings out the fact that immunity to plague, like immunity to any of the group of infectious diseases, depends on conditions, the exact nature of which we have yet to solve, for plague may evidently at one time be so harmless that we could play with it, while at other times it may be most virulent, dealing death all around. It is this fact that has no doubt led Simpson to write these weighty words, which should be pondered over by every physician and especially by those in the public health service: "There is one feature of the present pandemic of plague that presages danger in the future. It is that notwithstanding its apparent inability to cause in one place a great epidemic it exhibits in some places marvellous powers of recrudescence and resistance to all known measures of prevention, and this even when the cases are few. This tenacious capacity, combined with its transportability, makes it formidable because its slow progress, few cases, and possibly slight mortality accustom the people to its presence and lull the authorities into a frame of mind of looking upon it as a disease that can be easily controlled. In the meantime it gradually dots itself over different parts of the country, securing a firm hold in some localities which again form fresh centres for its activity until in the course of a few years it is firmly established in the country at many centres and only awaits the conditions necessary for its development into an alarming epidemic."

Glasgow.

A NOTE ON THE MORPHOLOGY OF SPIROCHÆTA DUTTONI.[1]

BY THE LATE J. EVERETT DUTTON, M.B. VICT.,

AND

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(From the Expedition of the Liverpool School of Tropical Medicine in the Congo, 1903-04-05.)

BREINL (1),[2] in the current number of the *Annals of Tropical Medicine and Parasitology*, describes the variations in the morphology of Spirochæta Duttoni observed during the experimental study of that parasite made at the Runcorn laboratories of the Liverpool School of Tropical Medicine (2). His description is based upon the examination of dried and fixed preparations of blood and of organ juices of infected animals stained by Giemsa's modification of Romanowsky's method; films fixed while still wet were not found to show more detail. In his paper many new points are brought forward and antecedent observations made by others and by ourselves (3) are confirmed and completed. The first part of the present note is, with the exception of a few additions, an abstract of Breinl's paper.

Spirochæta Duttoni is ribbon-shaped on transverse section. Though often wound in spirals it may be simply waved and hence may lie wholly in one plane; this can often be demonstrated in motionless parasites in fresh preparations. The spirochæta consists of a central core which stains a deep red and a surrounding periplastic sheath which stains a light pink (4). Both ends of the parasite are pointed, but one end (rarely both), through an extension of this sheath, is often prolonged into a flagellum-like process from which the central core is absent. No suggestion of peritrichal flagella (8) has ever been seen (4). The central core, or chromatic part, of the parasite frequently does not stain uniformly but shows more or less numerous irregularly-placed, unstained areas occupying the whole breadth of the parasite (5, 6, 7). Sometimes, especially in preparations taken just as the parasites are about to disappear from the blood, this fragmentation proceeds until the whole chromatic core is broken up into irregular granules; a clear area, of

[1] A paper read before the Society of Tropical Medicine and Hygiene on Nov. 15th, 1907. This note communicates the results of the last of the studies on which Dr. Dutton was engaged at the time of his death. In remembering his work all must admire the zeal which enabled him to accomplish so much that was good before he reached his thirtieth year; in remembering him we all regret his untimely death at an age when most men are first attaining their mature capacity for usefulness.—J. L. T.

[2] The parenthetical figures throughout the text refer to the bibliography at the end.

probably another nature, occurs quite constantly at the junction of the middle and a terminal third of the spirochæta.[3] The areas lying between the granules are usually unstained but may be coloured blue.

Spirochætæ frequently occur which possess either median or terminal knob-like swellings (7). Both median and terminal swellings stain red, though the latter are occasionally bluish, and both often contain granules of a dense red colour. A swelling in either situation is sometimes placed laterally and definitely outside the parasite, though still attached to it by a pink-staining band. Besides the usual slender parasites of uniform thickness others occur which gradually enlarge, either at the middle or towards one end, to twice the usual thickness (7); some of these forms perhaps represent a stage preceding longitudinal division. A small clear area containing a bright red granule is sometimes seen towards one end of such a parasite. The spirochætæ usually occur singly but chains or groups of threes and fours are frequent. In the blood of heavily infected animals, particularly if it has been shed for some little time, the parasites run together in enormous tresses or clumped agglomerations. (In such collections the parasites with knob-like swellings occur most frequently; they are also common in blood ingested by ticks.) Occasionally a parasite is either wholly or partially rolled up into a tight coil. The spirochætæ are usually extracellular; rarely in blood taken just before a crisis they are found within both red and white (9) cells.

Perhaps the most usual method of multiplication of Spirochæta Duttoni is by transverse division. The parasites increase in length and become thinner at about the middle. This thinner area is gradually more and more drawn out until the parasites separate. Longitudinal division also occurs and seems to be most frequent at the end of an attack when the parasites are disappearing from the blood. Before dividing the parasite increases considerably in width. It then splits, commencing at one end, so that definitely Y-shaped forms are produced; these forms are not seen very frequently however.[4] It therefore seems possible that longitudinal division may not be a common method of multiplication. An appearance, which Breinl suggests may represent a conjugation, occurs very rarely in the blood. Two parasites lie side by side and touch at one or more points. One stains a uniform red, the other is a light blue and apparently has no chromatic core but possesses a varying number of red granules placed at the spots at which the two parasites are in apposition.

Striking changes occur in parasites contained in the organs, particularly the spleen, bone marrow, and liver. In preparations taken just before a crisis, but while the blood is still swarming with parasites, many of the spirochætæ in spleen and bone marrow, rarely in the liver, are tightly coiled up. Some of them are swollen, the majority are more slender than usual and form skein-like coils which seem to become more irregular as the crisis approaches. Many of such parasites are engulfed by the phagocytes of the spleen and at the crisis the spleen cells are gorged with degenerated spirochætæ of this type. (In animals from which the spleen had been removed an analogous process took place in the liver.) A very few similarly coiled parasites undergo a remarkable change. They may be much fragmented or may retain their original outline. They lie, placed in a bluish-staining ground substance, within a definite cyst wall and so form a sporocyst-like body of about the same size as a red blood cell. These forms may be seen in the blood after all other forms have disappeared. They may undergo further changes: the outline of the coiled parasites becomes more indistinct and the chromatic core fragments until only the cyst, filled with red granules, remains. It is impossible to trace the further development of these forms in blood and organ juices stained by Romanowsky's method because of their great likeness to blood platelets. In the blood and organs of infected animals, and also in the blood contained in the alimentary canal of ticks, blue bodies, about 3 μ in diameter (in the tick as small as 1 μ) with red central granules constantly occur. Of their nature we can say nothing save that we could identify them with no normal structure.

In only one particular have our observations led us to conclusions in disaccord with those reached by Breinl. We believe that a certain appearance, also noted by Leishman (10), definitely shows the presence of an undulating membrane in some, not all, of the spirochætæ. Breinl maintains that the appearance is merely an illusion produced by the flattening of the spiral organism on the slide. The question can only be definitely settled by the indisputably obvious demonstration of the membrane by some special technique superior to that employed by us. We have seen what we believe to be an unmistakeable undulating membrane in spirochætæ in blood taken directly from the circulation of men and animals and in blood from the alimentary tract of ticks (Ornithodorus moubata) previously fed upon infected mammals. The blood was examined either dried, fixed and stained by Romanowsky's method, or fresh in moist preparations. Some of the moist preparations were examined at once; to others varying strengths of saline solutions, tinted with neutral red, were first added; with others a weak solution of gelatine was mixed in order to retard the movements of the parasites. By each of these methods the undulating membrane has been demonstrated in either dead or living parasites. It is not seen in every spirochæta although it can usually be found in some parasites in every slide examined. It is perhaps most easily seen in dying parasites which have been injured by the addition of a salt solution of unaccustomed density to the blood containing them; in some such injured parasites the membrane can be seen hanging, partially free. Perhaps for a similar reason it was also very well seen in blood from the gut of ticks. In any case it is only by the most careful examination of specimens with the highest powers[5] that the membrane can be perceived. When it occurs it runs the whole length of the body and it is occasionally manifest that some of the unstained areas in the spirochæta are due to the fact that it remains unstained at the points where its body is crossed by the membrane.

Various circumstances have prevented us from making an exhaustive study of the changes undergone by Spirochæta Duttoni in Ornithodorus moubata. Many preparations, made at various periods after the infecting feeds, of material from different parts of the bodies of infected ticks have nevertheless been examined. The appearances we mention were noted in preparations of either alimentary canal (usually receptaculum) or Malpighian tubules. We merely record our observations and do not attempt to give a complete account of the development of the spirochæta.

Besides obviously degenerating parasites all the variations in form seen in infected animals also occur in the tick. The parasites in blood from the receptaculum, which was ingested 24 hours previously, are differentiated into two more or less distinct types—one slender, the other stout. Besides these two types a third form, a huge parasite of twice the usual length and thrice the usual breadth, is seen occasionally. Parasites, usually coiled within white and red cells of the ingested blood or within the lining cells of receptaculum or tubule, are not infrequently seen. The coiled skeins and encysted forms are frequent. The most marked feature of the spirochætæ in the tick is, however, the extraordinary number of ways in which their chromatin may be fragmented. Parasites of all types without exception are affected. The granulations may be either coarse or fine. In one or two instances the granules of a finely fragmented, extracellular parasite are divided transversely so that its chromatin is represented by a row of paired granules. The granules of the encysted parasites are usually single. In others, perhaps at a more advanced stage, they are double, and the parasite then consists of a faintly blue or reddish spherical matrix about 5 to 7 μ in diameter, in which are embedded perhaps a score of pairs of deep red granules. Many such bodies have been seen in preparations from the Malpighian tubules of an infected tick. The further development of these bodies is problematical; it is certain that some of them burst and that their granules are thus freed. In stained specimens it is apparently possible to trace the development of each single granule to a comma-shaped mass of chromatin and of these comma forms to small spirochætæ. This possible development must, however, be confirmed by the continuous observation of fresh specimens. Breinl recalls the fact that blood which contained spirochætæ is still infective after it has been passed through a Berkefeld filter. He surmises that this may be explained by the presence of the granules described above and he suggests

[3] Breinl thinks that this may represent the site of fission in a future transverse division of the parasite.

[4] Y-shaped forms were particularly numerous in the juice obtained by splenic puncture just at the end of an attack in a patient who died from the disease.

[5] Zeiss, apochromatic objective, 2 mm., aperture 1·4; Ocular No. 18 or 27.

that the above cycle of development, which we think occurs in the tick, may also take place in the mammalian host.

While many of the appearances described remain unexplained it seems possible from our observations to draw the following tentative conclusions concerning the development of this parasite. 1. Spirochæta Duttoni may multiply by direct division, longitudinally or transversely. 2. It may possibly multiply also by a process in which the fragmented chromatin of an encysted parasite is extruded in granules, each of which may subsequently develop into a new spirochæta.

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Runcorn.

ON A VERY SUCCESSFUL METHOD OF TREATING ACUTE AND CHRONIC SUPPURATIVE OTITIS MEDIA AND OTHER FORMS OF OTORRHŒA.

WITH A SERIES OF CASES.[1]

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IT is hardly necessary to point out how prevalent cases of otorrhœa are in practice and how frequently they stubbornly resist all treatment, persisting for years, proving a source of inconvenience and annoyance to those thus afflicted, producing marked impairment of the hearing, and too often giving rise to fatal complications or to symptoms demanding an immediate and severe operation. These considerations have prompted me to place before you a method of treatment that I have practised for many (about ten) years, a method by which many cases of suppurative otitis media, even of long standing, may be recovered from completely without operative treatment and in nearly all instances beneficial results may be obtained. Indeed, I may say that during the many years I have been in charge of the ear department of Swansea General Hospital no cases have yielded more generally gratifying results than those of otorrhœa.

Before describing this treatment I will consider the usual course of cases of acute and chronic suppurative otitis media, speaking of them together because the one is simply the initial stage of the other. Chronic suppuration is, in fact, the sequel of an acute suppuration that has not been treated or that has baffled treatment.

The acute suppuration may start as a sequela of any of the exanthemata, more especially scarlet fever, or it may follow any inflammatory condition of the pharynx. It may start after exposure to cold and sometimes after sea-bathing. Occasionally patients originate the disease themselves by accidentally puncturing the membrane in an endeavour to clear wax out of the meatus. There is an acute inflammation of the tympanum and probably of the Eustachian tube and antrum as well, quickly giving rise to a serous exudation which fills the cavity. Owing to the ready access of micro-organisms along the Eustachian tube the exudation soon becomes purulent and as the tension increases the tympanic membrane gives way and the pus oozes through the perforation into the meatus and is discharged. Too often, however, this drainage through the perforation is quite inadequate and as a result of the irritant nature of the retained fœtid and decomposing pus the inflammation persists in a less acute form and the lining membrane has no chance of recovering its former healthy condition. I wish to lay stress upon the fact that the chronic suppuration does not result from any specially virulent character of the initial acute inflammation but rather from a reinfection and decomposition of the pus retained in the ear owing to the difficulty of drainage and antisepsis.

It is a matter of every-day experience that pus will not drain away completely from the meatus, even if the head be inclined over to that side, and that it has to be swabbed or washed out. How much less likely then must it be that the middle-ear cavity with its irregular surface and recesses will empty itself even if there be a free incision in the membrane or a large perforation. An incision in the membrane before perforation has taken place will relieve pain and tension and will facilitate drainage, but it certainly cannot be relied upon to produce complete evacuation in the tympanum and much less so if the antrum be affected. Paracentesis requires a certain amount of dexterity and practical experience in the examination of the ear to do properly and without injury, and in children at least, in whom the condition so frequently occurs, a general anæsthetic is necessary. To carry it out at the right moment the patient must be frequently seen and examined and afterwards the incision has to be prevented from closing too quickly. When a case of acute suppuration has persisted for some weeks notwithstanding the treatment adopted and has passed into the chronic condition if the egress of the pus be difficult and if there be any degree of tension then changes for the worse very quickly supervene and serious symptoms may arise demanding an immediate operation for their relief. Erosion of the lining membrane, caries, and even necrosis of the surrounding bone quickly follow the retention of offensive pus at any degree of pressure and the most serious complications may at any time become manifest.

But, fortunately, these cases are the exception and the majority run a much more chronic course, going on for years without giving rise to any urgent symptoms. In these cases the conditions are such that the pus drains away sufficiently freely for there to be no tension, but never quite completely, so that its irritant action prevents the mucous membrane from regaining a healthy condition and checks all repair. The bulk of patients met with are of this class with a chronicity varying from a few months to 20 or even 30 years and suffering solely from the inconvenience of an offensive discharge and defective hearing, with a condition, however, at all times offering a grave menace to health.

Since taking charge of the ear department of this hospital 11 years ago I have used a variety of antiseptic douches and the insufflation of antiseptic powders without a satisfactory result. The instillation of preparations of carbolic acid and the salts of mercury appeared to be too irritating if used sufficiently strong for the purpose in view and peroxide of hydrogen was disappointing. Many other antiseptics for instillation were tried without much effect in modifying the disease until I commenced using a concentrated solution of boric acid in glycerine and rectified spirit of wine, when I immediately began to have greatly improved results. Saturated aqueous solutions I had already tried for douching and instillation and also aqueous solutions with glycerine and rectified spirit in varying proportions, but the antiseptic effect was not sufficiently marked. By using glycerine as a solvent a far greater degree of concentration and activity could be obtained. I found that the addition of rectified spirit increased the solubility of the boric acid, although that substance is not so soluble in alcohol alone as in glycerine. The formula eventually arrived at was as follows: boric acid 1 drachm, rectified spirit of wine 2 or 3 drachms, and glycerine to make up 1 ounce.

Although I have consulted many works on the subject of otorrhœa I have not been able to find any mention of boric acid used in this degree of concentration and combination with glycerine and alcohol for instillation into the ears. In chronic cases I have found nothing approaching this solution in efficiency It is non-irritant and non-toxic and can be used for long periods without producing any unpleasant effects. It is prolonged in action owing to the large amount of boric acid present and also to its solution in glycerine. There is one feature about it that will partly explain its

[1] Abstract of a paper read before the Swansea Medical Society on March 25th, 1907.

activity and that is its power of penetration. It flows easily and will readily percolate through even a small perforation. Its penetration is greatly aided, and this is a point that I particularly call your attention to, by its high specific gravity, which is about 1200. The specific gravity of pus is about 1030, far lower than that of this solution. The importance in practice of this considerable difference cannot be over-estimated. It does not matter whether, as is nearly always the case, the tympanum be filled with pus which cannot drain away completely, for if the patient's head be kept in the proper position during the instillation of the drops they will by reason of their higher specific gravity gradually find their way into the recesses and irregularities both of the tympanum and the antrum, getting to the seat of the disease and displacing the pus which will float upwards towards the perforation. That the drops penetrate quickly into the middle ear and along the narrow canal of the Eustachian tube is proved by the fact that patients under treatment after putting the solution into the ear with the head held well on one side have felt a sensation of warmth in the throat and have tasted the drops at the back of the tongue. Should there be collections of inspissated pus the solution might still be able to penetrate round them, enveloping them, and rendering them less active and virulent as a nidus for suppuration. The instillation of a solution with a specific gravity lower than that of pus cannot on the other hand be effective, as it would simply float on the pus that almost invariably fills the tympanum in these cases. Furthermore this solution, even when instilled freely into the middle ear, is painless. Children almost invariably allow the treatment to be carried out without making any resistance, which certainly would not be the case if they felt any pain. Adults under treatment continue to use the solution for long periods without making any complaint of pain. It has in very exceptional instances happened that some pain has been felt for a little time after instillation and in these cases I reduce the amount of rectified spirit as it is to this, I think, that the pain is due.

For the attainment of good results a great deal depends upon the way in which the treatment is carried out. I instruct patients in these chronic cases first to syringe out the ear with a warm aqueous solution of boric acid of the strength of one teaspoonful to the pint. This washes away from the meatus any pus, either fluid or inspissated, and allows readier access of the drops to the tympanum. After the syringing the meatus is emptied of any solution by inclining the head to the affected side and gently drying with a soft cloth. The head is then held so that the affected ear is uppermost and the drops, previously warmed, are freely poured in. When done in the morning the head is to be kept in this position for at least ten minutes afterwards to allow the drops time to penetrate into the tympanum. But at night the drops are poured in when the patient is in bed and he is instructed to go to sleep lying on the unaffected side. In this way ample time is given at night for the drops to penetrate into the recesses of the middle ear. And later, when the patient perhaps unconsciously turns in his sleep there is opportunity for the drops filling the tympanum to gravitate into the antrum. The treatment must be persevered with as long as there is any trace of discharge, at first two or three times a day, then once a day at night, and it must be continued daily for two or three weeks after all trace of discharge has disappeared, then at lengthening intervals until discontinued altogether. Of course a good deal will depend upon the progress of each case. Some even of months' standing yield almost at once to the treatment and in such cases it can be left off sooner. If discontinued while there is even a trace of discharge the latter will in all probability soon recur owing to a renewal of the septic condition. When both ears are affected, as is very often the case, the patient should vary the side he sleeps on, the drops being poured into the uppermost ear, the other having been treated a short time previously. Once the drops get into the tympanum they will remain even if that ear be lowermost owing to the difficulty of drainage that I have alluded to. If there should be any polypus or any masses of granulations in the meatus these should, of course, be removed by snaring or by touching with a caustic, such as chromic acid, at the commencement of treatment. In the majority of instances decided benefit results; some patients recover rapidly from their complaint; in others the offensive smell to a large extent disappears and the discharge gradually diminishes, but complete cure proves difficult. In a few, only a very few in my experience, there is no improvement, and in these there has been, as I found out afterwards when operating for their relief, widespread mischief in the mastoid. If, therefore, in a case with a free discharge of foul-smelling and unhealthy-looking pus there should be no abatement after the treatment has been persevered with for some time I do not hesitate to advise an operation even if there are not as yet any urgent symptoms.

I have found the same line of treatment of the utmost value in acute cases in preventing bacterial reinfection and decomposition of the discharge. In every case of acute pain and inflammation in the ear when there was reason to suspect that suppuration might take place I have made it a practice to instruct the patient to douche the ears two or three times a day with hot boric acid lotion and then to instil the drops, afterwards inserting lightly a plug of wool in the meatal orifice. In this way the meatus was efficiently sterilised so that should pus make its way into it there would be no chance of reinfection. If a discharge appeared the syringing was to be continued three or four times a day, and after drying the ear the drops were to be instilled with the head well inclined towards the other side for some little time. In this way not only did the meatus act as a sterilised chamber into which any pus issuing from the tympanum was received but the strong antiseptic solution getting into the tympanum rendered safety against infection doubly sure. The natural perforation, though always small, did not heal too quickly and did not require to be kept open as would sometimes be the case if paracentesis were performed. Treated in this way such cases invariably did well in that the inflammation rapidly subsided and the discharge quickly ceased; the perforation healed up well and excellent hearing was ultimately regained. I have found in acute cases treated in this manner that good hearing would generally be regained in from one to two months.

My experience is that perfectly satisfactory results may be obtained in this way without paracentesis. However small the perforation may be, and even when situated high up, the discharge—when this solution is used frequently as described after first syringing and drying—does not become septic and resolution and healing rapidly take place. The perforation as it first appears is always small, and it is only later, when the discharge is allowed to become septic and irritating, that further sloughing of the weakened membrane takes place, leading to a large perforation incapable of healing up. By preventing this septic condition the membrane is protected from this further mischief and the small original perforation rapidly heals. I cannot call to mind a single case in which the acute has merged into the chronic condition when I have had the opportunity of treating the condition in the way I have described from the very outset. If there were a distinctly bulging drum and great pain I might make an incision with antiseptic precautions in the drum to alleviate the pain. But to do this indiscriminately in every case of acute and painful inflammation of the middle ear would be a mistake. By means of the treatment which I am advocating satisfactory results may be obtained without paracentesis and without constantly seeing the patient.

I will now give briefly the results of the treatment in a few cases, each presenting some points of interest.

CASE 1. *Acute suppurative otitis media.*—This patient was a medical man, about 45 years old. The inflammation developed after exposure to cold during a long drive. The meatus was filled with wax which was removed by syringing. There were some pain and a slight rise of temperature. I thought that the condition might subside without perforation as the pain gradually diminished, but eventually a quantity of pus was discharged into the meatus. On examination soon afterwards a small pinhole perforation with clearly defined edges could be seen in front about the junction of the upper and lower quadrants. Under treatment, which was started after the wax was removed, the discharge ceased almost immediately and the perforation quickly healed. Hearing was slowly regained and ultimately became as good as ever. Here the perforation was very small and high up so that drainage could not have been very effective, and yet under treatment rapid recovery took place.

CASE 2. *Commencing chronic suppurative otitis media.*—This patient, who was six years old, felt great pain in the left ear following a cold. A discharge appeared which soon became offensive and had been going on for a fortnight when the child came under treatment. The mother said that the discharge ceased "almost directly" after the treatment was commenced. The treatment was continued for two or three weeks, the drops being instilled at lengthening intervals. I saw the child three months later. The discharge had not recurred. The hearing was excellent. The membrane appeared quite healthy and no perforation could be seen.

CASE 3. *Suppurative otitis media of a month's duration.*—The patient, who was a commercial traveller, came to see me about a troublesome discharge and very severe deep-seated pain in one of his ears. The discharge had been going on for a month. I found the meatus filled with pus only slightly offensive. There were general œdema and redness over the mastoid and the temperature was raised.

The pain was very severe, notwithstanding the fact that the pus appeared to be coming freely away. The symptoms led me to advise an immediate operation. I pointed out the grave danger that might arise from delay but the patient would not consent to operative interference so I had to fall back upon treatment by hot antiseptic douches, the frequent instillation of the drops which I have mentioned, and the application of hot dry compresses to the side of the head. I felt certain that pus was being retained at considerable tension in the antrum and was giving rise to the pain, although the discharge from the tympanum appeared free, but under the milder method of treatment there was a gradual abatement of the symptoms, the pain lessened, ultimately disappearing, the redness and œdema over the mastoid disappeared, and eventually the discharge entirely ceased. Hearing had to a large extent been regained when I last saw him.

CASE 4.—This patient was a boy, 11 years old, who suffered from otorrhœa of 13 months' duration, following scarlet fever. He was very deaf in the affected ear and the discharge was offensive. During the 13 months for which the discharge had been going on the ear had been constantly douched with boric acid lotion, but no other treatment had been employed. The results of the treatment in this case were very gratifying. I saw him a fortnight later when his mother said that the discharge had quite ceased and that his hearing had greatly improved. A subsequent communication from her was to the effect that there had been no recurrence of the discharge and that his hearing had still further improved.

CASE 5 *Profuse double otorrhœa in a child.*—This patient was three years of age and the disease was of some months' duration. The discharge was so free that the lobules of both ears were in an eczematous condition owing to the irritating nature of the pus which flowed over them and to neglect on the part of the mother. After a week or fortnight's treatment as an out-patient there was, so the mother told me, no improvement. Suspecting that there had been further neglect on her part I had the child admitted into hospital, after which there was rapid improvement and in a few weeks recovery was complete. This case is mentioned to illustrate the importance of carrying out the treatment efficiently.

CASE 6.—This patient, who was a girl, aged one and a half years, had suffered from otorrhœa almost since birth and certainly for a year. Before I saw her she had for some time been under treatment with no improvement. When first seen on Dec. 6th there was a free foul-smelling discharge. A week later—namely, on Dec. 13th—there were no smell and no discharge, although the ear had not been syringed for eight hours. I saw the child a fortnight after and there had been no recurrence.

CASE 7.—This patient was 21 years old and came under treatment a year ago for a foul smelling discharge from the left ear with occasional attacks of deep-seated pain. The discharge was free and commenced two years previously after an attack of fever. It had been going on continuously during that time. The condition here proved very stubborn and I several times thought that an operation would be necessary. Still, a very slight improvement appeared to be going on, the discharge diminished very slowly and became less offensive, the pain also disappearing. I had on one or two occasions to apply chromic acid to granulations near the membrane. In the course of the syringing small masses of inspissated pus were frequently washed away. I have a note dated just a year after the treatment was commenced and it contains the following: "To-day after a year's treatment the membrane appears dry and healthy. The ear has not been syringed for 24 hours and the patient has seen no discharge for a week. There is some improvement in the hearing so that a watch can be heard at a distance of one and a half inches. There is a deep depression in the membrane just below the umbo extending towards the inner wall of the tympanum where cicatrisation has apparently taken place."

CASE 8. *Double suppurative otitis media of 18 months' duration.*—The patient was a sea captain, about 35 years old. There was great impairment of hearing which had necessitated his giving up his employment. He had been treated in Liverpool and London by different medical men and had been operated on in a London hospital on the left side. Unfortunately, the operation did not benefit the otorrhœa on that side and the discharge persisted both from the meatus and from a sinus behind the ear. The operation had also resulted in absolute deafness on that side. He had a tuberculous tendency and there was an old tuberculous sinus in the neck on the right side. He could hear a little when spoken to in a loud voice directly into the right ear. After six weeks' treatment the otorrhœa on the right side had completely ceased and the hearing had greatly improved. The discharge from the left ear which had been operated on had greatly diminished but there was no improvement in hearing. I wanted him to remain under observation for a time longer but being able to hear fairly well with his right ear he obtained employment as an officer on a liner and resumed his occupation.

CASE 9.—This patient was 20 years of age and suffered from otorrhœa of eight years' duration following scarlet fever. The patient was operated on five years later and six months later a second operation was performed. Much relief was given by the operations but the discharge, though much less, still continued. The case came under my care two years after the second operation. In a few weeks the discharge completely ceased. It recurred two years later but again quickly yielded to treatment.

CASE 10. *Double suppurative otitis media of 12 years' duration.*—The patient, who was 18 years old, had an attack of scarlet fever when four years of age. Both ears commenced discharging after the attack and had continued in this state without once ceasing for the 12 years. The discharge from the right ear ceased after three weeks' treatment and that from the left ear after six weeks' treatment. The hearing was improved.

CASE 11.—This patient, who was 16 years old, had an attack of scarlet fever when five years of age. Double otorrhœa commenced after the attack and had continued ever since, ceasing occasionally for about two weeks at a time, sometimes in one ear and sometimes in the other. After three weeks' treatment the discharge ceased in both ears. Two months later the discharge had not recurred. The hearing was considerably improved. A perforation could be seen in each membrane in the anterior lower quadrant.

CASE 12. *Suppurative otitis media of 15 years' duration.*—This patient, a young man about 24 years old, came to consult me about his throat. I found him to be suffering from secondary syphilis. His tonsils were enormously enlarged and ulcerated. There was a small sore on the penis. The enlargement of the tonsils was evidently of long duration. Incidentally he said that his left ear had been discharging for 15 years and that he was quite deaf in it. I found that there was a free discharge from this ear, the meatus being lined by unhealthy granulations. He could not hear my watch when touching the ear. He was put on antisyphilitic treatment but the tonsils were not removed owing to the constitutional condition and the ear was treated in the way I have indicated. The discharge had increased greatly since he acquired his attack of syphilis and I was not hopeful of much improvement. He was put under treatment in March, 1906. About the middle of the following June the discharge from the ear had entirely ceased for some time, the meatus appeared quite healthy, and the hearing was greatly improved. He could hear my watch at 12 inches and said that he heard now much better than for 12 years. There was a clearly defined perforation in the anterior lower quadrant. The success of the treatment in this case was extremely gratifying, as the constitutional condition of the patient, the large and ulcerated tonsils, and the long duration of the disease were much against a hopeful prognosis.

CASE 13. *Left suppurative otitis media of 23 years' duration.*—This patient was 28 years old and had an attack of measles when five years of age. Otorrhœa had commenced then and had continued without intermission ever since—i.e., for over 20 years—being sometimes better and sometimes worse. Now and then the ear ached considerably. Filling the meatus was a large polypus which I removed, and the root, which sprang from the front part of the meatus, was destroyed with chromic acid. After six weeks' further treatment the discharge ceased altogether. I have the following note taken three months after she first came under treatment: "Can hear watch at 15 inches. Perforation to be seen in anterior lower quadrant but no discharge. Membrane and meatus perfectly dry, although the ear has not been syringed for two days. There has been no discharge for five weeks."

In conclusion, I will touch upon one other form of otorrhœa which is fairly often met with. Very often after an acute inflammation of the meatus resulting from a boil or sometimes from a small self-inflicted wound a small suppurating pocket may persist. It generally occurs in the cartilaginous portion of the meatus and is accompanied by considerable swelling of the meatus and great pain. Often a small button of granulations forms at the orifice of the little pocket or even a small polypus. There are sometimes localised tenderness, redness, and œdema in front or at the back of the auricle, and the condition may even be so severe as to simulate mastoid disease. It may persist for months, causing the patient much anxiety and pain and inconvenience from the deafness that accompanies it. I can recall one case where the patient had suffered constant pain for two months from this condition and another where it had been going on for over three months, this patient being told that an operation would be necessary for her relief. In this case there were œdema, redness, and tenderness behind the ear. Both these patients recovered quickly under frequent syringing and the free use of the solution after the granulations had been destroyed by chromic acid.

Swansea.

ON CHANGE OF TYPE IN LEUKÆMIA AND ITS SIGNIFICANCE.*

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THE subject of this communication was a boy, aged 14 years, admitted to the General Infirmary at Leeds under the care of Dr. T. Wardrop Griffith on Feb. 16th, 1906. The patient was an intelligent boy who had come under treatment for enlargement of the spleen. Until the beginning of the present illness he had always been healthy. For three or four months before admission he had always felt tired and drowsy. On Feb. 9th he stayed in bed on account of weakness and his medical attendant found that the spleen was enlarged. On admission he was very pale and feverish (102° F. = 39° C.). The pulse was rapid, 120 per minute. The heart was a little dilated and a faint systolic bruit was heard over the pulmonary area. The lungs were normal. The liver dulness was slightly increased downwards, and the spleen reached below the umbilicus and to the right of the middle line. The urine was free from albumin and sugar. The blood examination showed the features of myeloid leukæmia, and the rather high proportion of large lymphocytes justified a diagnosis of atypical myeloid leukæmia. Arsenic treatment was adopted and continued until March 11th, when vomiting set in. On March 13th x ray treatment was begun, five minutes' exposure of the spleen and each knee-joint daily being prescribed. As the patient was getting worse rapidly and the x rays caused some discomfort the treatment was

* The figures in parenthesis refer to the bibliography at the end.

discontinued on the 28th. On March 8th the glands in the neck, axilla, and groins were noticed to be slightly enlarged. Later some pale retinal hæmorrhages with marked neuro-retinitis and pallor of the optic disc were noticed. There was also some diplopia. On the 28th it was noticed that he was becoming drowsy. On the evening of the 29th there were several attacks of severe paroxysmal præcordial pain. During the stay in hospital there was fever for most of the time. In the first fortnight after admission the weight increased by 14 pounds (6·5 kilogrammes) and after that remained roughly constant. Death occurred early on March 30th, 37 hours after the last blood examination.

Necropsy.—This was made by Dr. Griffith seven and a half hours after death. Rigor mortis was present. The body was very pale; some pigmentation was observed on the scrotum, the inner sides of the thighs and knees, the dorsa of the feet, and the anterior margins of the axillæ. The inguinal, axillary, and cervical glands were palpable. The thymus was rather large for the age of the subject. The lungs showed a few small subpleural hæmorrhages and a few areas of collapse at the bases. The heart showed well-marked fatty degeneration of the myocardium of the left ventricle, especially in the musculi papillares. A few punctiform sub-endocardial hæmorrhages were seen in the left ventricle. The muscle generally was flabby. Nothing was found to account for the præcordial pain. The liver was markedly enlarged and weighed 49½ ounces (= 1450 grammes). The cut surface showed the centres of the lobules to be pale yellow ochre in colour. The spleen weighed 28 ounces (= 810 grammes) and apart from the enlargement appeared normal. The kidneys were pale with red mottling. The suprarenals were normal. The marrow of the ribs, clavicles, and left femur was red, that in the middle part of the femur being a firm red jelly of the same colour as the spleen and free from spicules of bone. On the right retina, after fixation of the whole eye in formalin, there was a convoluted white ridge running for more than a centimetre from the neighbourhood of the optic disc. Other smaller white streaks were also noticed. The prevertebral and mesenteric glands were not noticeably enlarged, but those on the lesser curvature of the stomach were rather prominent. The intestinal lymphoid tissue was not increased in size or amount. The bronchial glands were slightly pigmented, but otherwise normal. No other abnormalities were found.

The results of the blood examinations are put together in the accompanying table. As a result of the first examination the case was diagnosed as a somewhat atypical myeloid leukæmia on account of the high percentage of large lymphocytes (16·3 instead of the usual 1–5) and the marked prevalence of myelocytes over adult cells in the eosinophil and neutrophil series.

Ehrlich's term myelocyte implies a cell with eosinophil or neutrophil granules which is not yet a polymorphonuclear adult cell. It therefore includes the promyelocyte, which may be either a large lymphocyte or a large mononuclear in form with the appropriate granules lying in a basophil cytoplasm, the ordinary myelocyte with a round, oval, or indented nucleus, and the granules lying in an unstained cytoplasm, and the metamyelocyte with a horseshoe nucleus. A cell should not be classed as an adult blood cell (polynuclear) until the horseshoe nucleus is well constricted. The Türk's cells (Reizungsformen) I regard with Pappenheim as very young megaloblasts in which the hæmoglobin has not yet appeared, and it is interesting to note that in this case as the megaloblasts disappeared from the blood so also did the Türk's cells.

On all occasions a considerable number of the large lymphocytes were below the usual size and could only be distinguished from rather large ordinary lymphocytes by the fainter staining of their nucleus. From the table it will be seen that this boy who at first presented the features of a somewhat atypical myeloid leukæmia, within five weeks had the blood picture of a large lymphocytic leukæmia in which the eosinophil, neutrophil, and mast cells were rather well represented. Clinically, from the short duration of the symptoms, this case must be described as one of acute myeloid leukæmia, and histologically it was in the later stages an extremely atypical myeloid leukæmia. Indeed, one may surmise that if death had been postponed the final picture would have been that of an ordinary acute leukæmia.

Parenthetically, I may remark that the frequent description at the present time of large lymphocytes as large mononuclears is greatly to be regretted. The latter term was introduced by Erhlich to describe a definite variety of cell, distinct from the large lymphocyte. The large mononuclears and transitionals one may group together as one class, as do Ehrlich and Pappenheim. Ehrlich's blood-cell classification is the best at the present time, and to mingle the terminology of different classifications, as is often done, is a most retrograde step. A report of a blood examination described in this casual way is often of little or no value to anyone except the reporter, for others cannot be certain of what he means. Exact knowledge would also be advanced if authors would more frequently give the numbers per cubic millimetre of erythroblasts when they are present. There is no more difficulty in ascertaining their absolute number than there is of obtaining that of any variety of leucocyte, and of the latter the absolute as well as the percentage numbers should always be given.

The differential counts in the present case were all made on air-dried films fixed and stained by Jenner's method. At the present time Jenner's is undoubtedly the best stain for the histological study of blood films for clinical purposes. The Romanowsky method and its modifications, such as Leishman's or Giemsa's, give most beautiful pictures but are quite inadequate for the cytological analysis of a blood film from a case of myeloid leukæmia, for the following reasons: (*a*) Neutrophil granules are shown poorly against the pink stained cytoplasm. (*b*) Since in the various Romanowsky methods the alcohol content of the staining solution is less than 50 per cent., the extremely water-soluble mast cell granules of myeloid leukæmia are dissolved. This extreme water solubility of the granules of some mast cells was first pointed out by Michaelis (1). The short rinse in water in Jenner staining does not bring about much solution of these granules. (*c*) The demonstration of the azur granules of Michaelis and Wolff (2) complicates the count, as it is often difficult to say whether certain granules in a cell with an open-work nucleus and basophil cytoplasm are young eosinophil, young neutrophil, mast cell, or azur granules. In other words, whether the cell is an eosinophil or

TABLE I.—GIVING THE RESULTS OF EXAMINATIONS OF THE BLOOD.

(*The leucocyte percentages are given in italics.*)

Date.	Hæmoglobin (per cent.).	Erythrocytes.	Megaloblasts.	Normoblasts.	Leucocytes.	Large lymphocytes.	Large mononuclears.	Lymphocytes.	Neutrophil myelocytes.	Neutrophils.	Eosinophil myelocytes.	Eosinophils.	Mast cells.
20/2/06	—	2,653,125	392 Türk's cells (Reizungsformen) 234	628	78,000	12,714 *16·3*	1014 *1·6*	2340 *3*	39,858 *51·1*	16,614 *21·3*	1482 *1·9*	468 *0·6*	3276 *4·2*
14/3/06	—	1,626,523	None seen.	Present in very small numbers.	140,000	78,400 *56·0*	980 *0·7*	7140 *5·1*	31,080 *22·2*	14,840 *10·6*	3640 *2·6*	1540 *1·1*	2380 *1·7*
17/3/06	—	1,507,812	,,	None seen.	76,000	43,016 *56·6*	2052 *2·7*	1672 *2·2*	17,860 *23·5*	8056 *10·6*	1368 *1·8*	532 *0·7*	1444 *1·9*
21/3/06	24	1,092,000	,,	,,	71,000	55,380 *78·0*	1562 *2·2*	284 *0·4*	8378 *11·8*	4402 *6·2*	284 *0·4*	426 *0·6*	284 *0·4*
28/3/06	15	739,000	,,	,,	42,000	35,364 *84·2*	252 *0·6*	1092 *2·6*	2898 *6·9*	1806 *4·3*	168 *0·4*	126 *0·3*	294 *0·7*

neutrophil promyelocyte, a young mast cell, or a large lymphocyte or large mononuclear with azur granules. That these granules exist in many of the "non-granular" cells is important but it is not necessary to demonstrate them to classify the cells.

For the study of many blood parasites and a qualitative study of some cells, such as large lymphocytes, large mononuclears, and lymphocytes, Romanowsky staining is to be preferred; but for the above-mentioned reasons I find it impossible to make an approximately accurate differential count on a case of myeloid leukæmia with a Romanowsky stain. Ehrlich's triacid mixture shows up the neutrophil granules better than any other stain, but is defective in differentiating "non-granular" cells. Its introduction will ever be a landmark in the history of histological technique, but the day for its exclusive use has now passed. It may be laid down as a general proposition that no method should be used to stain a film for a differential leucocyte count of possibly pathological blood which will not satisfactorily differentiate the cells met with in myeloid leukæmia—i.e., show all the developmental stages between the large lymphocyte and the adult cells of the blood.

Microscopic Examination of Organs.

Technique.—Rib marrow films were fixed wet in formalin vapour for some hours and then transferred to alcohol. The most satisfactory staining was got by first staining in orange G for about half an hour, washing this off with alcohol, and then staining in equal parts of Jenner's stain (use a saturated solution of eosinate of methylene blue in absolute methyl alcohol) and water until the film was rather a dark blue to the naked eye. It was then dehydrated as rapidly as possible with alcohol, cleared with xylene or benzene, and mounted in neutral balsam. As formaldehyde markedly diminishes the affinity of the tissues for acid dyes and somewhat increases that for basic dyes, this preliminary staining in a strongly acid dye, and washing off with alcohol, in which it is only slightly soluble, controls the over-staining with methylene blue which would otherwise occur. The result in successful specimens is: eosinophil granules orange red to orange brown, neutrophil granules pink, nuclei and basophil cytoplasm blue, mast cell granules blue to violet, red cells their natural colour—i.e., unstained, or a greenish tint (= hæmoglobin + methylene blue). I have since modified the method and made it more constant by staining first in a weak watery solution of tartrazin, rinsing in water, and then staining in a mixture of equal parts of Jenner's stain and 1 in 1000 tartrazin (Grübler's) in water until the section is dark enough. Giemsa's stain was also used. The other organs were examined in paraffin sections after fixing in formalin and potassium bichromate. The stains most used were the above mentioned and polychrome methylene blue.

Rib marrow.—The predominating cell is the large lymphocyte, most of them being of moderate size. The nucleus is frequently slightly indented, the cell thus verging on the large mononuclear. Using Pappenheim's Atlas (23) as a standard of comparison, the predominating cells correspond to prototype 12, Figs. 1 and 3; prototype 13, Figs. 1, 2, 7, 8, and 9; and prototype 15, Figs. 1 and 2. Neutrophil and eosinophil myelocytes are present in moderate numbers but in very small proportion to the lymphocytes. Of the latter, all varieties are met with, but as said above, middle-sized ones are by far the most frequent. Megakaryocytes (polymorphonuclear giant cells) are found occasionally. No mast cells or megaloblasts have been found. Normoblasts are very scarce, in fact, almost absent.

Femur marrow.—Except for greater prominence of the megakaryocytes and myelocytes it is identical with the rib marrow.

Spleen.—The Malpighian bodies are not at all prominent, but careful examination shows their position to be marked by a few lymphocytes and some connective tissue round the small arteries. The mass of the organ is composed of cells like those of the bone marrow with the difference that the eosinophil and the neutrophil myelocytes are perhaps not quite so frequent megakaryocytes are extremely scarce, and erythroblasts apparently absent. In many of the sinuses the endothelial cells appear to be converting themselves into moderate-sized large lymphocytes. Thus, in examining a sinus one may notice that the endothelial cells suddenly cease and are replaced by a row of moderate sized large lymphocytes. Cells intermediate in form between the two are frequent. Evidence of motility is met with occasionally in lymphocytes fixed in an elongated shape while squeezing their way between other cells.

Thymus.—On searching one meets with very rare eosinophil and neutrophil myelocytes. Otherwise the thymus appears normal.

Lymph glands.—A very small gland from along the trachea contains some megakaryocytes, neutrophil and eosinophil myelocytes and eosinophil leucocytes in the pulp. A prevertebral lumbar gland is somewhat similar but less myeloid, and no megakaryocytes were seen in it. In a mesenteric gland no myelocytes or megakaryocytes were found. In all three glands and a Peyer's patch eosinophil leucocytes are abundant. In the three glands examined there seems to be a diminution of the follicles at the expense of the stromatic part where the majority of the cells are like those of the other organs. The appearances in the glands as a whole appear to me to indicate that they are involved to a slight extent in the leukæmic process.

Liver.—The leukæmic infiltration is confined to the portal tracts. The cells are mostly the moderate sized large lymphocytes met with elsewhere. Eosinophil and neutrophil myelocytes are very rare, but eosinophil leucocytes are abundant.

Kidney.—In many places between the tubules are masses of large lymphocytes round the capillaries similar to those met with elsewhere. Occasionally eosinophil and neutrophil myelocytes can be found amongst them. The tubal epithelium is often degenerate in places where the leukæmic infiltration is thick.

Choroid and retina.—The white ridge in the retina is merely a folding so that two opposing layers of rods and cones come into intimate contact. In the loose tissue between the choroidal vessels is a lymphocytic infiltration similar to that found elsewhere, and occasional eosinophil and neutrophil myelocytes are met with amongst the other cells.

Heart.—There is a little lymphocytic infiltration of the loose subepicardial connective tissue. Well-marked fatty degeneration of the muscle cells is seen in a piece fixed in Hermann's fluid. There is no blocking of capillaries with cells.

Throughout the organs mast cells were scarce, and I now regret that small pieces were not fixed in absolute alcohol to determine their distribution. The abundance of eosinophils in the liver, glands, and intestinal lymphoid tissue recalls the similar findings in the granulomatous type of Hodgkin's disease. The appearances as a whole show that the bone marrow and spleen are affected most of all and the kidney and liver to a lesser degree. The lymph glands are not much affected but individual glands vary. The marrow and spleen are far more myelocytic than the other organs. Mitoses are not a prominent feature of any of the sections. The organ findings thus justify the conclusions drawn from the blood examinations.

The Cytology of Leukæmic Blood.

Myeloid leukæmia.—Ehrlich's (3) canons are as follows:—1. A great increase of all granular leucocytes (except in remissions). 2. The presence of neutrophil myelocytes in large numbers. 3. An absolute but not necessarily a relative increase of the eosinophils, and usually the presence of eosinophil myelocytes. 4. An absolute increase of the mast cells. 5 The presence of unusual forms of leucocytes. 6. The presence of erythroblasts. Ehrlich, however, does not mention the presence of large lymphocytes or the fact that the large mononuclears and lymphocytes are often increased also. Their percentage numbers are small, but as will be seen from Table II. the absolute figures may be considerable. The large mononuclears are the only cells which at times I have not met with during a count of 1000 successive leucocytes. Usually, however, they are present in more than normal absolute numbers. From these figures it will be seen that if all the granular cells were removed from a myeloid leukæmic blood there would often be enough "non-granular" cells left to allow a diagnosis of lymphadenoid leukæmia without much leucocytosis.

I believe Hirschfeld (4) and Wolff (5) were the first to point out the importance of the large lymphocyte in myeloid leukæmia. Pappenheim also has for some time been insisting on this point.

Lymphadenoid leukæmia.—The vast majority of the cells present are large and small lymphocytes in varying proportions, but myelocytes are generally present, principally of the neutrophil series. Erythroblasts are not the constant

TABLE II.—*Showing the Numbers of Erythrocytes, Erythroblasts, Total Leucocytes, and "Non-granular" Leucocytes in Five Typical Cases of Myeloid Leukæmia examined recently. The Percentage Figures are given in italics.*

Case and date.	Erythrocytes.	Megaloblasts.	Normoblasts.	Leucocytes.	Large lymphocytes.	Large mononuclears.	Lymphocytes.	Total "non-granular."
W. R. 19/5/05.	4,000,000	4680	4,160	121,000	968 *0·8*	968 *0 8*	3,630 *3*	5,566 *4·6*
4/7/05.	2,900,000	2350	9,410	282,000	12,408 *4 4*	2256 *0 8*	3,384 *1·2*	18,048 *6 4*
14/8/05.	4,000,000	3151	6,713	127,000	2,540 *2*	1651 *1·3*	3,175 *2 5*	7,366 *5 8*
10/05.	5,250,000	338	1,912	110,000	5,060 *4·6*	880 *0 8*	3,520 *3 2*	9,460 *8 6*
24/1/06.	4 000,000	—	1,940	95,000	2,660 *2·8*	1520 *1·6*	3,515 *3 7*	7,695 *8·1*
15/3/06.	4,500,000	—	1,378	105,000	2,520 *2·4*	—	2,730 *2 6*	5,250 *5*
26/5/06.	5,200,000	—	280	28,000	168 *0 6*	912 *3·4*	1,848 *6·6*	2,968 *10·6*
W. T. 7/05.	3,200,000	—	440	110,000	4,840 *4·4*	—	4,620 *4·2*	9,460 *8·6*
16/8/05.	2,900,000	351	1,755	154,000	4,620 *3*	—	1,848 *1 2*	6,468 *4·2*
25/10/05.	3,000,000	scarce		209,000	4,180 *2*	1672 *0·8*	6,688 *3.2*	12,540 *6*
P. 4/9/05.	3,450,000	2700	5,400	450,000	10,800 *2·4*	2700 *0·6*	3,600 *0 8*	17,100 *3 8*
25/10/05.	3,800,000	2600	13,880	417,000	7,506 *1·8*	5838 *1 4*	5,004 *1·2*	18 348 *4·4*
F. 23/10/05.	3,300,000	—	2,980	494,000	13,832 *2 8*	—	14,820 *3*	28,652 *5·8*
21/11/05.	3,300,000	1900	4,480	380,000	5 700 *1·5*	4940 *1·3*	5.320 *1 4*	15,960 *4·2*
19/12/05.	3,650,000	930	3,410	152,000	3,040 *2*	912 *0·6*	4.256 *2 8*	8,208 *5 4*
16/5/06.	3,150,000	—	600	300,000	12.900 *4 3*	—	4,800 *1 6*	17.700 *5 9*
T. G. 18/9/06.	4,300,000	1278	5,822	135,000	1,755 *1 3*	1215 *0·9*	7,965 *5 9*	10.935 *8·1*
11/10/06.	2,980,000	981	4,033	104,000	1,768 *1·7*	416 *0·4*	2 496 *2·4*	4 680 *4·5*

feature that they are in myeloid leukæmia but are frequently present. It was originally thought that in acute lymphadenoid leukæmia the blood leucocytes were nearly all large lymphocytes, and in chronic lymphadenoid leukæmia nearly all ordinary lymphocytes. But although this distinction is generally valid it is not altogether accurate, for large lymphocytes are present in all leukæmic blood (in my experience even in remissions of myeloid leukæmia), and may be the predominant cell in chronic lymphadenoid leukæmia. Similarly there may be a great increase of ordinary lymphocytes in acute lymphadenoid leukæmia There is thus every gradation hæmatologically, as there is clinically, between acute and chronic lymphadenoid leukæmia (6). In addition to the ordinary well-defined myeloid and lymphadenoid types atypical myeloid cases occur where the large lymphocytes are present in more than the normal proportions or where the eosinophils or mast cells or both are reduced or absent. The hitherto published cases of acute myeloid leukæmia are included under this heading. These atypical cases have been collected and summarised by Hirschfeld (7), and since that time others have been reported by Moritz (8), Preiss (9), Browning (10), Elder and Fowler (11), Lazarus and Fleischmann (12), Plehn (13), and Türk (14) (four cases). In this group are included the cases of myeloid chloroma reported by Klein and Steinhaus (15), Sternberg (16), and Pope and Reynolds (17).

Since the foregoing was written Case 1 of Table II. has died. Shortly before death the blood showed changes which brought the case into the atypical myeloid group. The patient was a man, aged 28 years, who had been suffering from myeloid leukæmia for several years and whose blood I had examined at intervals for two years. He was a typical case and under the combined effects of x rays and arsenic kept in good health subjectively and led an active life. In May, 1906, a large x ray burn formed on the abdomen and x ray treatment was consequently suspended. Arsenic was continued and a remission which was then in progress continued for some months. The subjoined table gives the results of the last three blood examinations. The earlier ones are not given in full as they show no unusual features. (The leucocyte percentages are printed in italics. The hæmoglobin was estimated with the Haldane-Gowers hæmoglobinometer.)

—	Date. 3/10/1906.		10/1/1907.		16/5/1907.	
Hæmoglobin per cent. ...	124		102		60	
Colour index $\left(=\frac{\text{Hb. \%}}{\text{\% No. of erythrocytes.}}\right)$	1·1		1·2		1·1	
Erythrocytes	5,700,000		3,850,000		2,700,000	
Megaloblasts	—		600		2,400	
Normoblasts	—		4,400		8,800	
Leucocytes	20,000		93,000		228,000	
Large lymphocytes ...	280	*1 4*	4,371	*4·7*	46,740	*20·5*
Large mononuclears ...	1,960	*9·8*	8,835	*9·5*	3,875	*1·7*
Lymphocytes...	3.120	*15·6*	2,232	*2·4*	7,752	*3·4*
Neutrophil myelocytes	440	*2 2*	45,547	*47 9*	132,012	*57·9*
Neutrophils	12,920	*64·6*	30,318	*32·6*	33,060	*14·5*
Eosinophil myelocytes	—	—	279	*0 3*	1,140	*0·5*
Eosinophils	720	*3·6*	1,395	*1·5*	456	*0·2*
Mast cells	560	*2·8*	1,023	*1·1*	2,964	*1·3*

The high proportion of large lymphocytes and the preponderance of myelocytes over polynuclear cells in the eosinophil and neutrophil series were the unusual numerical features found at the last blood examination. Qualitatively there were striking alterations in the red cells—viz., the frequent occurrence of cells with basophil granulations, and the presence of many old megaloblasts such as are met with in pernicious anæmia but not usually in myeloid leukæmia. The high colour index found at the last three examinations is also noteworthy.

Thirteen days later I heard to my surprise that the patient had died. I was able to obtain a partial necropsy. Films of the rib marrow showed the presence of many megaloblasts similar to those met with at the last blood examination, and every degree of karyolysis could be seen in them. Large lymphocytes were particularly frequent and all developmental stages between them and adult neutrophil and eosinophil cells were to be found. The spleen was massive and was composed chiefly of myelocytes, most of them neutrophil but some eosinophil. The liver was enlarged and extremely myeloid, the myeloid tissue causing the cut surface to be mottled, and being aggregated in places into small white nodules. The mesenteric glands were somewhat enlarged, but white; no myeloid change was found in the one examined. In the omentum extravascular myelocytes were abundant and occasional megakaryocytes were to be found. The blood in the larger vessels of the omentum and elsewhere was extraordinarily myelocytic and without any undue proportion of large lymphocytes. Occasional normoblasts but no megaloblasts were seen. It therefore appears that the high proportion of large lymphocytes and the unusual features in the red cells seen at the last blood examination 13 days previously—rather a leukanæmic blood picture—were a temporary condition, and not the final condition, as one would have expected.

I am indebted to Mr. A. B. Seton Stewart, under whose care the patient was, for giving me facilities for examining him, obtaining me the necropsy, and granting me leave to publish my observations.

Change of Type in Leukæmia.

Of recent years the following five cases have been reported besides the present one. Wilkinson (18) describes shortly a case which when first seen had the typical blood picture of myeloid leukæmia, and just before death a little later had that

of acute (large lymphocytic) leukæmia. Türk (19) describes a case of myeloid leukæmia in which under arsenic treatment a remission took place. The leucocytes later gradually increased with a disproportionate number of large lympho cytes. Eventually pneumonia developed and the leucocytes before death sank to 700 per cubic millimetre, nearly all of them being large lymphocytes. Post mortem the organs showed a corresponding condition. Melland (20) reports a case closely resembling the present one, the chief difference being that erythroblasts persisted to the end. Flesch (21) records the case of a boy who reacted well to x ray treatment for myeloid leukæmia and was then lost sight of for some little time. He was brought back to hospital moribund and died before a complete blood examination could be made. Films, however, showed that the blood contained great numbers of leucocytes, practically all of them large lymphocytes. Lucksch (22) describes a case of acute leukæmia in which at first there was a predominance of ordinary lymphocytes but just before death a month later large lymphocytes were almost exclusively present. The older cases where a change of type is recorded are so indefinitely described cytologically that they are of little value.

Theoretical Considerations.

For an understanding of the anatomy and histology of leukæmia it is necessary to consider where and whence the blood cells develop. The prevailing view is based on the work of Saxer (36) and after him of Pappenheim (23). On this view the starting point is the perivascular adventitial cell or clasmatocyte † This develops into a large round cell with basophil cytoplasm and a pale-staining nucleus with several nucleoli. Unfortunately, this cell has too many names, such as large lymphocyte (Ehrlich, Pappenheim), makrolymphocyte (Pappenheim), indifferent lymphoid cell (Wolff), germ centre cell (Flemming) basophil myelocyte (Dominici), lymphogonia, myelogonia, myeloblast, and non-granular marrow cell. This cell, the earliest name of which is the large lymphocyte, occurs normally in the germ centres of the lymph glands and is identical histologically with similar cells in the bone marrow and spleen. There is therefore no need to give it a different name in different organs—e.g., myeloblast in the marrow, &c. This confusion of names for one cell has given rise to endless misunderstandings and hindered progress in work on blood cells. Pappenheim has consequently suggested that it should be called the gonocyte or hæmatogonia (37). This cell can be formed anywhere and can develop into its more differentiated daughter cells, the cells of the blood-forming organs and the blood. Like its descendants, the myelocytes and erythroblasts, it is not a blood cell in extra uterine life but a blood-forming organ cell; not a leucocyte but a tissue cell.

Ehrlich, in his brilliant researches on the blood cells, did not trace out the ancestry of the myelocytes and erythroblasts. The lymphocytes and possibly the large mononuclears he derived from the large lymphocyte. He does not seem to have recognised the presence of the large lymphocyte in the bone marrow, and consequently the transitions from it to the myelocytes and megaloblasts. As a consequence he and his followers consider that lymphadenoid and myeloid leukæmia are two similar but totally unrelated diseases.

In man the blood-forming organs are at first general and later specialised. The liver produces all varieties of blood cells in the fœtus, but ceases to be a blood-forming organ before birth. The spleen, which in the fœtus produces all varieties of blood cells, in the adult produces only lymphocytes and large mononuclears. The lymph glands in the adult produce only lymphocytes and some large mononuclears, but in the fœtus may produce other kinds of blood cells. The bone marrow produces granular cells and erythrocytes but also to a lesser extent large mononuclears and lymphocytes. Under special stimuli, however, these organs may assist each other to produce the cells for which there is a special demand; thus in typhoid fever the bone marrow becomes markedly lymphoid (24), and in anæmias and infections which evoke a neutrophil leucocytosis the spleen may produce erythrocytes and neutrophil myelocytes, and the glands also to a lesser extent (4, 25). This myeloid change may also occur in cases where the marrow is atrophied (26) or replaced by tumour growth (27, 28). On rarer occasions there may be new formation of blood cells in the perivascular connective tissue of the portal tracts of the liver (29, 30, 31) and even in the kidney (31). There is thus more or less return to a fœtal condition of blood cell formation.

The myeloid change in the spleen, glands, liver, and kidneys in myeloid leukæmia is comparable with that in the observations just mentioned, and may more reasonably be explained by metaplasia (4, 5, 26) than by metastasis. Conversely, the lymphoid change always found in the marrow in lymphadenoid leukæmia was explained by metastasis from the primarily affected glands and spleen.

But while for myeloid leukæmia the metastatic theory is extremely improbable, it is almost disproved for lymphadenoid leukæmia; for many cases, mostly acute, but one small celled and chronic (32), have now been reported, in which the bone marrow only was involved; and, finally, Hirschfeld (25) has recently described cases of acute (large lymphocytic) leukæmia where the marrow was principally composed of large lymphocytes but the spleen contained many myelocytes and the glands were extremely myeloid, the findings thus resembling those of Frese (27) and Kurpjuweit (28) where the bone marrow had been replaced by tumour growth.

Between the metastatic theory of Ehrlich and the metaplastic theory of Hirschfeld, Wolff, and Pappenheim there is an intermediate view held by some authors. These assume that the lymphocytic element in the bone marrow is independent of the myeloid portion, the lymphocytes arising from large lymphocytes, and the myelocytes from myeloblasts. They therefore explain lymphadenoid change in the marrow as due to overgrowth of the lymphocytic quotient and pressure atrophy of the myeloid portion. But as large lymphocytes and myeloblasts are indistinguishable from one another this view has little to support it. Similarly the myeloid change in the spleen is supposed to be due to the awakening into activity of slumbering myeloid rests. Sternberg (38), so far as I am aware, is the only recent writer who holds that myelocytes are present normally in the human spleen. Hirschfeld (25), however, has more recently expressly investigated this point and cannot confirm Sternberg's statement. Therefore, if myelocytes and erythroblasts are not normally present, slumbering myeloid rests are only hypothetical. For these reasons this intermediate theory of the histogenesis of leukæmia appears to me to rest on a very slender basis.

The histological parallelism between multiple myeloma and leukæmia, and still more so the fact that chloroma, which in its gross anatomy and its invasiveness is a malignant tumour, and in its histology is a lymphosarcoma (myeloid chloroma can occur, 15, 16. 17), co-exists with leukæmia, link leukæmia with the sarcomata. (It would be interesting to know if the diminution or absence of free hydrochloric acid in the gastric juice found in individuals suffering from malignant tumours (34) occurs in ordinary leukæmias before cachexia has set in.

Leukæmia is described by Pappenheim as a malignant hyperplasia of the large lymphocytes of the bone marrow, with or without participation of the other blood-forming organs, this hyperplasia of the large lymphocyte existing with a varying degree of metaplasia in different cases. This hyperplasia, if there is overflow into the blood-stream, gives rise to leukæmia but can also exist aleukæmically as in some cases of pseudo-leukæmia.

Sternberg's (33) attempted separation of acute leukæmia from other leukæmias under the title of leucosarcomatosis is totally unwarranted by observed facts. The large lymphocytes met with in the blood in acute leukæmia are not different from those met with at other times, so that it is quite unnecessary to separate them off as leucosarcoma cells. Some acute leukæmias may be associated with a lymphosarcoma or with multiple sarcomata (chloroma) but only a few. The sarcomatous part of the disease in these cases should be regarded as a localised excessive hyperplasia exactly similar in origin to the bone marrow hyperplasia and dependent on the same unknown cause.

To look upon leukæmia as an infective disease is, in my opinion, at present unjustifiable. For the leucocytosis differs from that of known infective diseases and fever is not necessarily bacterial in origin. The fever occasionally met with in myeloid leukæmia and so frequently in acute leukæmia may be due to the presence of albumoses and peptones in the blood plasma, for it has been shown that proteolytic ferments are liberated by the destruction of neutrophil cells and large lymphocytes in the blood (41). These ferments are present in myeloid leukæmia in easily recognisable amounts and albumoses have been found in the

† The appearances in the fœtal liver and leukæmic livers and spleens suggest an endothelial as well as an adventitial origin for the blood cells.

blood plasma. Yet, on account of its clinical picture, acute leukæmia is frequently spoken of as if it were an acute infection. That secondary infection takes place in acute leukæmia is not to be wondered at, since there is little or no formation of defensive leucocytes. What is to be wondered at is that sufferers from a large lymphocytic leukæmia keep free from infection so long as they often do.

K. Ziegler (39) has recently attempted to produce myeloid leukæmia experimentally. After exposing the spleen in mice, guinea-pigs, and rabbits to the action of the x rays he found that the Malpighian follicles atrophied and that the spleen pulp underwent a myeloid change. There was also a considerable overflow of myelocytes into the blood-stream. These changes, however, were transient. From these experiments and a microscopical study of the blood and organs in three human cases of myeloid leukæmia Ziegler suggests that the disease is due to a loss of the normal balance between lymphadenoid and myeloid tissue, the latter proliferating unrestrainedly if the former be removed. These experimental results are interesting, but do not appear to me to be a strong foundation for this theory of the pathogenesis of the disease. For blood myelocytosis has no necessary relationship to leukæmia, and as pointed out above there may be abundant formation of myelocytes and erythroblasts in the spleen in non-leukæmic conditions.

The whole histology and course of the disease tend to group it with pseudo-leukæmia as a malignant hyperplasia, with or without true tumour formation. But just as a periosteal sarcoma need not be an ossifying growth and an epithelioma of the epidermis need not cornify, so in leukæmia there is a return to a more embryonic state of the blood cells. There is, indeed, a rough parallelism between fœtal and leukæmic blood, for a large lymphocytic leukanæmia (35) corresponds rather closely with the stage of fœtal life where the granular cells are scarce or non-existent and there are many erythroblasts in the blood-stream; and a myeloid leukæmia or leukanæmia has some resemblance to a later stage of fœtal life when the granular cells have been formed.

The average number of red cells per cubic millimetre in myeloid leukæmia is about 3,000,000 but at times may be lower or normal. As a rule, there is a greater degree of anæmia in lymphadenoid cases. Excessive production of erythroblasts and their overflow into the blood-stream is the rule in myeloid leukæmia, but in lymphadenoid leukæmia they are generally scarce in the blood-stream and after death absent from the bone marrow or present only in very small numbers. The excessive production of erythroblasts in myeloid leukæmia must be regarded with Ehrlich as part of the disease and not secondary, for they are met with in the blood when the red cells and hæmoglobin are undiminished or even above the normal (see Table II.). On the other hand, in lymphadenoid leukæmia they are generally scarce but may occur in the blood even when the red cells are undiminished. (Thus in the early stages of a lymphadenoid leukæmia with great thymus hyperplasia in a man of 30 years, while the red cells were 5,500,000 and the leucocytes 15,000, of which about half were large lymphocytes, 100 normoblasts per cubic millimetre were found. Myelocytes, megaloblasts, and normoblasts were found throughout the course of the disease, and clumps of normoblasts were met in the lymphoid femur marrow after death.)

Hirschfeld (7, *a*) and Pappenheim attribute this occurrence of myelocytes and erythroblasts in the blood to irritation of the bone marrow by the growing masses of lymphocytes; it is to them an irritation myelocytosis such as occurs when the bone marrow is invaded by tumour growth. This explanation is undoubtedly valid if we accept the metastatic theory of leukæmia. But if the medullary growth in lymphadenoid leukæmia be regarded as a hyperplasia of the autochthonous large lymphocytes with a varying degree of lymphadenoid metaplasia, then we are no longer compelled to regard the presence of myelocytes and erythroblasts in the blood as due to irritation of the marrow. On the contrary, it is permissible to regard their formation as evidence that the large lymphocytes of the marrow have not completely lost their power to differentiate in the normal direction.

Histological study shows that myelocytes and erythroblasts are scarce in the bone marrow in lymphadenoid leukæmia, scarcer than they are in normal marrow. As these cells do not occur in the blood in health one is led to the conclusion that their presence in the blood in this disease is due to the *vis a tergo* of the rapidly multiplying lymphocytes driving them into the blood-stream prematurely. It is not necessary to regard their formation as a result of the leukæmic stimulus, but rather as a response to the physiological needs of the organism.

That there is increased destruction of red cells in myeloid leukæmia is evident, and it must be considerable, for in this disease there is normally a great over-production of erythroblasts with the other marrow cells, and yet some degree of anæmia is the rule. Pappenheim attributes this anæmia to hæmolysis. Hæmolysis, however, need not be invoked to explain the anæmia met with in some cases, such as the present one and most acute cases, for in these the large lymphocytes cease to develop into erythroblasts as the disease progresses, and the anæmia is therefore dependent on the supply of red cells being inadequate to replace ordinary loss. If hæmolysis occurs as well it will accelerate the production of the anæmia.

Pappenheim in his most recent paper (40) argues that there are two leukæmic noxæ, one causative of myeloid and the other of lymphadenoid leukæmia. In both cases the unknown stimulus causes new formation and excessive multiplication of large lymphocytes. Along with this multiplication there is usually metaplasia—in the one case myeloid, in the other lymphadenoid. In some cases, however, the stimulus is unusually acute and the large lymphocytes merely multiply with little or no metaplasia. Such an increase or a modification in the stimulus can occur in the course of the disease, as in the present instance and the similar ones mentioned above. The result is in each case a large lymphocytic leukæmia—i.e., the ordinary acute leukæmia. According to this view, then, myeloid and lymphadenoid leukæmia are not two similar but unrelated diseases, but two forms of leukæmia, each based on the large lymphocyte. Every acute leukæmia is actually or potentially myeloid or lymphadenoid.

The figures in Table II. show that the (small) lymphocytes are frequently increased absolutely in myeloid leukæmia. This may be due to over-production of them in the marrow and other myeloid organs, in which case we must suppose that the myeloplastic stimulus contains a lymphoplastic element (bone marrow normally contains lymphocytes). For the reasons given above it is not necessary to suppose that the converse holds good—viz., that the lymphoplastic stimulus of lymphadenoid leukæmia contains a myeloplastic element.

Two other explanations of this increase of lymphocytes may be offered: either that the production of them is normal in quantity and chiefly from unaffected glands, but that the destruction of them is diminished, or that it is a chemiotactic lymphocytosis pure and simple. Personally, I incline to the first explanation, chiefly because dwarf promyelocytes are occasionally met with—i.e., ordinary lymphocytes elaborating eosinophile or neutrophile granules, just as the large lymphocytes do. If this interpretation of the cells in question be correct, the lymphocytes are susceptible to the action of the myeloplastic stimulus.

This question of the behaviour of the lymphocytes in myeloid leukæmia is theoretically important. Observations on the point are scanty, to the best of my knowledge, and the figures I have given need to be checked by careful observations over a larger number of typical ordinary cases of myeloid leukæmia than I have had at my disposal. A true mixed leukæmia—i.e., myeloid leukæmia combined with the germ centre hypertrophy in the lymph glands, and the accompanying excessive blood lymphocytosis of lymphadenoid leukæmia—has not yet been recorded.

Summary.—1. The large lymphocyte is present in the blood in all leukæmia. The large mononuclears and lymphocytes are frequently increased in myeloid leukæmia. Myelocytes are usually present in lymphadenoid leukæmia. 2. Between the extreme types ordinary myeloid and ordinary small-celled lymphadenoid (chronic lymphatic) on the one hand and the undifferentiated, usually acute, large lymphocytic leukæmia on the other hand all gradations have been found. 3. Both myeloid and lymphadenoid leukæmia may become large lymphocytic. 4. Simultaneous myeloid and lymphadenoid leukæmia is not known.

In conclusion, I wish to express my thanks to Dr. Griffith for allowing me to study and report the case, and to Mr. Barrett, the clinical clerk, for his careful note-taking.

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Leeds.

TWO CASES OF DIABETIC GANGRENE OF THE FOOT; AMPUTATION THROUGH THE THIGH; RECOVERY.

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CASE 1.—A man, aged 64 years, of strictly temperate habits, began to have trouble with a corn situated over the head of the second right metatarsal bone four years ago. The skin around the corn became inflamed, and although under appropriate treatment it was kept in check it did not entirely clear up. In May, 1906, there was an exacerbation of the inflammation which led to local gangrene and a perforating ulcer of the foot. The gangrene extended to, and finally involved, the entire second toe. I saw him with his medical attendant—Dr. A. Kirkpatrick—on June 1st. He had rigid arteries and was subject to periodic attacks of nausea and vomiting. There were a negative history as to syphilis and an absence of signs pointing to tabes dorsalis. Pulsation could not be detected in any of the arteries below the knee and the circulation in the foot was feeble. His urine was somewhat excessive in amount and contained sugar in quantities varying from 12 to 20 grains per ounce. There was no albumin, and apart from the glycosuria and rigid arteries no evidence of gross organic disease in any of his viscera. He was moved to a surgical home and the necrosed toe was amputated together with the head of the corresponding metatarsal bone. The resulting wound suppurated freely, but the necrotic process was for a time arrested and healthy granulations began to form; after the lapse of three weeks the edges of the wound became gangrenous and the mischief slowly extended up the foot. Pain, which had hitherto been slight in character, now began to disturb his sleep and he suffered much from headache. Dieting and medicine failed to reduce the amount of sugar excreted and it became obvious that his progress was a retrograde one. He gave a reluctant consent to amputation which was performed through the thigh at the junction of its middle and lower thirds. The wound healed painlessly and aseptically under the first dressing, and he gradually regained his strength, but there was no appreciable improvement in the glycosuria.

CASE 2.—The patient, a man, aged 50 years, of sedentary habits, began to have pain in his left great toe in May, 1906. Suppuration occurred in the nail matrix and was succeeded by gangrene which gradually involved the entire toe. It was of the moist variety. I saw him with Dr. Kirkpatrick at the end of June. He was feverish, had a foul tongue, a poor appetite, and was very thirsty. The circulation in the foot and leg was sluggish and pulsation could not be felt below the popliteal artery. The liver was enlarged and tender and the urine, which was not excessive in amount, contained about 15 grains of sugar per ounce. The patient was treated on the usual expectant lines for a fortnight, but as the gangrene continued to spread he was at the end of this period taken to a surgical home where the toe and the head of the first metatarsal bone were removed. The wound became gangrenous on the third day and the infective process rapidly invaded the dorsum of the foot. Severe constitutional symptoms, including delirium and diarrhœa, supervened, and as a last resort the limb was amputated through the lower third of the thigh. For three days his condition was exceedingly grave, then he quickly rallied and made a good recovery. The wound healed aseptically. A week after the amputation the urine was free from sugar and has remained so.

The influence which aseptic methods have had in revolutionising surgery is perhaps nowhere better illustrated than in the treatment of senile gangrene. In the pre-antiseptic days the doctrine of *noli me tangere* in regard to this disease held the field, whereas at the present time amputation high up is admitted to be the proper, indeed the only successful, plan of treating cases of senile gangrene in which active septic infection is grafted on to dry gangrene. The association of glycosuria with gangrene is, however, still looked upon by many surgeons as a serious bar to amputation. Such an attitude is, I believe, due to the mistaken notion that the gangrene is secondary to the glycosuria, whereas in the majority of instances the latter is a consequence and not a cause of the former. My second patient is a very good example of this, and numerous similar cases have been recorded where the sugar entirely disappeared after the gangrenous limb had been removed. Bearing this in mind, and excluding cases of acute diabetes, the association of glycosuria with gangrene, far from being an obstacle to amputation, should be regarded as an additional reason for its performance.

To operate successfully in these cases it is essential that we should secure aseptic healing of the wound, and this demands not only a rigid aseptic technique but great gentleness in handling the tissues of the limb. I never employ a tourniquet, preferring to cut down on and secure the femoral artery in Hunter's canal after making the skin incisions. The femur should be divided with a very sharp saw kept cool by a stream of salt solution, and the cut muscles should be drawn together by tiers of fine catgut so as to obliterate all dead spaces where serum might accumulate. Drainage should be unnecessary if hæmostasis has been properly attended to.

It is a remarkable coincidence that both my cases came from the same neighbourhood, had the same medical adviser, and were operated on within a short time of each other in the same surgical home.

Sheffield.

UNIVERSITY OF OXFORD.—The degrees of B.M., B.Ch. have been conferred on Howard Barclay Billings, Worcester College.—Mr. E. W. A. Walker, D.M., Fellow and tutor of University College, has been appointed University Lecturer in Pathology for three years from Jan. 1st, 1908.

UNIVERSITY COLLEGE, BRISTOL.—The annual meeting of the governors of University College, Bristol, was held on Nov. 20th. The report of the Council showed that the College was making steady progress. Including 100 students attending classes and lectures in the Faculty of Medicine, the total number of entries was 1119. Reference was made to the insufficient financial support extended to the College and to the work being cramped in consequence.—The annual dinner of the University College Colston Society will be held on Jan. 14th, 1908. Mr. G. A. Wills is President and Sir William J. Collins, M.P. (Vice-Chancellor of the University of London), will be the guest of the evening.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

The Nature of Epilepsy.

A MEETING of this section was held of Nov. 26th, Dr. S. J. GEE, the President, being in the chair.

Dr. A. E. RUSSELL read a paper on the Nature of Epilepsy. He said that the old theory that epileptic and many other convulsive attacks were explicable on the hypothesis of a sudden failure of the cerebral circulation was worthy of reconsideration. That such a failure was competent to produce unconsciousness and convulsions had been proved experimentally by Kussmaul, Tenner, and many others, while the phenomena of Stokes-Adams disease and heart block afforded clinical evidence in the same direction. Evidence of such failure in epilepsy was scanty, but indisputable cases were on record in which the heart underwent transient arrest, and similar cases were also brought forward by Dr. Russell. Opportunities of making observations were scanty because it was impossible to predict when a fit would occur and because the period of cardiac inhibition was of necessity very short. An attack of ordinary syncope (faint) offered both analogies and contrasts to the epileptic fit. Intermediate cases occurred in which it was difficult or impossible to make a diagnosis. The causation of cardiac inhibition in epilepsy must be sought in the marked vaso-motor and cardio-motor instability which was a feature of the disease. Dr. Russell quoted cases in which both vagal and vaso-motor symptoms were combined. The phenomena of *petit mal* were then considered. Dr. Russell observed that the similarity between infantile convulsions and epilepsy was very marked and submitted that the same explanation held good for them. It was noteworthy that the cardiac and vaso-motor systems in the child were very sensitive as seen, for instance, in the phenomena of fright. On the hypothesis of cardiac inhibition as the precipitating factor of the fit, recovery followed on the escape of the heart from inhibition. If the hypothesis was correct it should afford a satisfactory explanation of the various phases of the fit, and Dr. Russell submitted that this was the case. In regard to uræmic convulsions, experimental and clinical evidence was brought forward to show that the cerebral manifestations of uræmia might be due to a condition of increased intracranial tension with resulting cerebral anæmia. Concerning Jacksonian epilepsy, the difficulty of correlating cerebral anæmia with this condition was discussed and evidence was submitted that cerebral anæmia existed both in status epilepticus and in the epileptiform seizures of general paralysis.

Dr. D. FERRIER said that vaso-motor regulation of the brain circulation was a small part in the consideration of the question; it had been shown that vaso-motor spasm caused flushing of the brain. He did not think there was evidence to show that vaso-constriction would cause anything but flushing. He considered that in the cases described by Dr. Russell in which the heart stopped that the epilepsy had not originated from the heart but that the discharge from the brain produced the condition of the heart. Dr. Russell would transfer the origin of epilepsy from the brain to the heart but he (Dr. Ferrier) thought they ought to have proof of some definite relation between heart disease and epilepsy and he did not believe that such proof existed. He quoted figures showing that out of 500 epileptics there were about one and a half per cent. with some signs of cardiac disease, whereas in 800 cases of heart disease there was not one case of epilepsy. Epilepsy was not so much a matter of the circulation as of the nutrition of the nerve cells. He considered that the condition of the circulation was secondary to the epileptic discharge from the cortical cells.

Dr. C. E. BEEVOR said that experimentally by stimulation of the thumb centre it was possible to get a tonic localised contraction, but by using a stronger current it was possible to produce a fit affecting the whole body and it was certain that in those cases there was not inhibition of the heart. In the case of fits produced by brain tumours, in which it was possible to have fits without loss of consciousness, it seemed impossible that they could be ascribed to want of action of the heart. Those brain tumours might grow and cause fits just like epilepsy and he did not see how in such cases the heart's action could be taken into account. In regard to *petit mal*, it seemed impossible that the heart failure should have such a limited effect as to produce loss of consciousness and yet not cause the patient to fall down. Further, attacks of *petit mal* might occur and be combined with attacks of idiopathic epilepsy. It was difficult to think that the *petit mal* was due to one cause and the epilepsy to another; they must be due to one cause and that could hardly be the heart. The question was whether the primary disease was in the heart or in the cortex of the brain, and in his opinion the primary disease was in the cortex and he did not consider that the heart was responsible in idiopathic epilepsy.

Dr. A. M. GOSSAGE said that if cardiac inhibition was to be regarded as the commonest cause of epileptic fits then there ought to be more evidence of the occurrence of such inhibition than they possessed. He thought it possible that the cases brought forward by Dr. Russell might be classed with cases of Stokes-Adam syndrome.

Dr. J. BIERNACKI referred to cases in infective fevers where syncope occurred with convulsions which were sometimes almost typical epilepsy, but there was no definite relation between the degree of syncope and the degree of convulsion.

Dr. J. L. STEVEN (Glasgow) said that probably enough weight had not been placed on the factor of vaso-motor anæmia of the brain as a cause of cerebral disease and possibly of epileptic disease. He drew special attention to the relationship that existed between cerebral anæmia and Raynaud's disease.

After Dr. E. FARQUHAR BUZZARD had spoken Dr. RUSSELL replied and the meeting terminated.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Pubiotomy with Notes of an Illustrative Case.—Exhibition of Specimens.

A MEETING of this section was held on Nov. 14th, Dr. HERBERT SPENCER, the President, being in the chair.

Dr. THOMAS WILSON read a paper on Pubiotomy with notes of an illustrative case. He pointed out that in the intermediate degrees of pelvic contraction with a conjugate diameter between two and three-quarters and three and a half inches efforts to obtain a living child had been made by the induction of premature labour and by some method of widening the bony pelvis. The most favourable large statistics of the results of induction of premature labour showed that not more than 50 per cent. of the children so born were alive at the end of the first year. In this country symphysiotomy had never come into general favour in spite of the improved subcutaneous method described by Herman at the Obstetrical Society in 1901. The division of the symphysis endangered many important structures, including the bladder and urethra as well as the important plexuses of veins in the neighbourhood. As an alternative, division of the pubic bone by means of a wire saw was first recommended in modern times by Gigli in 1893. Following on his recommendation the operation had been put into practice on the continent in a large number of cases with results, on the whole, very satisfactory. Two methods of performing the operation had been devised, the open and the subcutaneous, of which the latter was by far preferable. The method of performing the operation and of effecting delivery was discussed, together with the dangers incurred. A case of labour in a reniform pelvis in which the operation was employed successfully by Dr. Wilson was described in detail. Pubiotomy appeared to present all the advantages claimed for symphysiotomy, while avoiding some of its more serious disadvantages. Hæmorrhage was less in the former operation and the danger to the bladder, and especially to the urethra, was diminished. With an equal degree of separation of the bones the amount of widening of the pelvis had been proved to be the same in each operation and the indications for employment were the same in both.—The PRESIDENT said he had no personal experience of pubiotomy or of symphysiotomy, preferring the alternative operations of induction of labour and Cæsarean section. The operation of pubiotomy had been rarely performed in Britain, but Dr. Wilson had omitted two cases operated on by Dr. Wallace, whose opinion of the operation was "not an entirely favourable one." The President thought that Dr.

Wilson had not sufficiently emphasised the dangers of the operation. Baumm's two cases terminated fatally and Robert Mann had published a case of hernia through the gap in the bone Injuries of the bladder and vagina and thrombosis were not uncommon accompaniments of the operation, and, if not fatal, involved considerable risk. He did not think a rest of 16 days in bed was sufficient for the proper consolidation of the bone. Dr. Wilson's case occurred in a patient with a pelvis of almost normal size, and though he did not question the justifiability of the operation in this case, the special dangers of laceration of the vagina would be much greater when the pelvis was considerably contracted. Operators seemed to be divided in opinion upon the question of immediate or deferred delivery; but he thought it would be unjustifiable to submit a patient to the pains of labour after the bone had been divided unless she were kept continuously under an anæsthetic, which itself involved risk. Although the mortality of pubiotomy was not high it probably was at least as high as induction of labour and Cæsarean section, and involved dangers which appeared to be unavoidable, and disabilities to the mother, which were not met with in the alternative operations. With regard to Pinard's views on the treatment of contracted pelvis he would say something on another occasion. Meantime his recollection was that Pinard had with symphysiotomy lost 12 per cent. of the mothers and children. Pinard's latest statistics, mentioned by Dr. C. Hubert Roberts, showed a maternal mortality in symphysiotomy of over 11 per cent, and an infantile mortality of 14 per cent. They also showed a growing faith in conservative Cæsarean section and a lessening faith in symphysiotomy.—Dr. MACNAUGHTON-JONES said that, like the President, he had never had recourse to symphysiotomy. At Heidelberg Professor von Rosthorn had given him the details of a case in which uncontrollable and fatal hæmorrhage had occurred after pubiotomy. When he was in Freiburg in 1906 Professor von Krönig had performed 30 cases without a death and had lost two children. On the other hand, Franqué up to March, 1905, had operated 43 times, with 12 deaths and the loss of three children. Schauta in his recent work seemed to favour pubiotomy. The higher the head, Krönig had pointed out, the greater the danger to the bladder. The advantages over symphysiotomy seemed mainly to be the avoidance of hæmorrhage and of injury to the structures in the median line, as the clitoris and urethra, but Zweifel and others considered that the permanent effect, so far as pelvic uniformity and general gain of increase in diameter are concerned, was better in symphysiotomy than in pubiotomy.—Dr. GRIFFITH'S experience was confined to symphysiotomy and he was of opinion that pubiotomy presented no real advantages. The difficulties, in his opinion, were not in the operation but in the proper choice of cases for which it was suitable. He hoped the time would come when it would be generally recognised that the treatment necessary in cases of obstruction at the brim was not to be determined by the length of the conjugate unless in extreme degrees of contraction. In these cases Cæsarean section was the only method, but in all the common, slight, and moderate degrees of contraction the length of the conjugate, while a very important factor, was never the determining factor. It was no uncommon experience to see a woman spontaneously delivered with a conjugate of about 3¼ inches without danger to herself or her baby, while in other cases with a conjugate half an inch longer the difficulty and danger might be great, this depending on the size and "mouldability" of the child's head and the power of the uterus.—Dr. C. HUBERT ROBERTS insisted on the importance of endeavouring to estimate the size of the fœtal head in contracted pelvis and not merely depending on the actual bony measurements of the pelvis itself. As to pubiotomy and symphysiotomy Dr. Roberts thought that possibly these operations had sprung into favour abroad largely on account of the falling birth-rate. He had performed subcutaneous symphysiotomy once at Queen Charlotte's Hospital, with good results to mother and child. He had no experience of pubiotomy.—Dr. WILSON in reply, thanked the President for referring him to Dr. Wallace's two additional cases, which brought the total number of pubiotomies performed in this country to ten. Where, after dividing the bone, the labour was left to the natural efforts, it did not appear to be necessary to keep the patient anæsthetised. The pain following operation in Dr. Wilson's case was moderate, and this appeared to be the rule. Time must show whether symphysiotomy or pubiotomy was the better operation. The latter appeared to possess over the former the advantages of being less liable to cause severe bleeding, of endangering the bladder to a less, and the urethra to a much less, degree. It was remarkable that no discussion on pubiotomy had previously taken place in London and that no one in this city appeared to have put the operation to a practical test.

The following specimens were shown:—

The PRESIDENT: Squamous Carcinoma of the Cervix in a patient aged 26 years. High amputation with the cautery was carried out and the patient showed no recurrence six and a half years after.

Mr. ALBAN H. G. DORAN: Ovarian Dermoid retained two years in the pelvis after obstructing labour.

Dr. J. S. FAIRBAIRN: Fatal Rupture of an Early Tubal Pregnancy.

Dr. MACNAUGHTON-JONES: An Improved Demonstration Pelvis.

Dr. WILSON: Unilateral Hæmatometra recently acquired by operation.

Dr. C. E PURSLOW: Pregnant Uterus with Fibroid, the latter in a state of red degeneration.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

The Morphology of Spirochæta Duttoni.—Oriental Sore.—The Hamburg Institute of Tropical Diseases and Seamen's Hospital.

A MEETING of this society was held on Nov. 15th, Sir PATRICK MANSON, the President, being in the chair.

A note on the Morphology of Spirochæta Duttoni by the late Dr. J. E DUTTON and Dr. J. L TODD was read by Dr. F. M. SANDWITH. This is printed in full at p. 1523 of this issue of THE LANCET.

The PRESIDENT then demonstrated a case of Oriental Sore. The patient was Dr. F. Johnson of Kerak, Moab, Palestine, who had contracted the disease in Bagdad, and microscopical specimens from scrapings from the sore on the back of his left hand were exhibited showing the parasite. The President described the relationship between Oriental sore and kala-azar and the subject was discussed by Dr G. C. LOW, Dr. A. DUNCAN, Dr. L. W. SAMBON, Dr W. HARTIGAN, Dr. F. E FREMANTLE, and Dr. J. F. MACDONALD

Dr. SANDWITH described the Institute of Tropical Diseases and Seamen's Hospital in Hamburg which he had visited at the time of the Fourteenth International Congress of Hygiene and Demography. The Hamburg Tropical School was created in consequence of the need which the State of Hamburg felt for practical and scientific research into marine and tropical diseases. The site was well chosen because the sanitary service of the port furnished excellent material for the work. The institute was also founded to give special instruction to medical officers of the mercantile marine service. In 1900 the old Seamen's Hospital at Hamburg was converted into what is officially called the Institute for Diseases of Ships and of the Tropics, and a new two-storeyed hospital of 56 beds was built for the reception of tropical patients, especially seamen. The Imperial Government of Germany determined about the same time to establish a training school for officers of the colonial medical service, and instead of opening this in Berlin it formed a coalition with the State of Hamburg by which the former, while retaining certain rights and granting money in aid, insured for its naval officers tuition in the institute and adjoining hospital. The institute at Hamburg, therefore, had the advantage of officially belonging both to the Imperial Government and to the State of Hamburg, and when money could not be obtained from one of these sources it was often easy to procure it from the other. That doubtless accounted for the fact that the financial position was never strained, and though he had made many inquiries he had not yet succeeded in finding anyone who could tell him what the annual budget amounted to. The whole establishment was under Government and municipal control and was not dependent, as the English tropical schools were, on the benefactions of the public. He should also mention that grants in aid seemed to be obtained from the War and Marine Ministries. Another advantage which the Hamburg Institute had was that it was considered important from the very beginning that it should be in close

touch with the sanitary service of the port, and therefore Dr. Nocht, the port medical officer of the city, was appointed director of the institute and had his chief office in that building. In 1906 the institute was found to be too small and was therefore enlarged; zoological laboratories were added, under the care of the late Professor Schaudinn who had now been succeeded by Dr. von Prowazek. The institute stood on a hill in the centre of the docks, about half an hour by tramway from the heart of the town. On the ground floor were offices, the director's room, and a research laboratory for four workers. On the first floor were the library and reading-room. The museum was arranged round the sides of the laboratory. On the same floor there were a chemical laboratory of two rooms, another room for experimental operations on animals, and some smaller laboratories. On the second floor was the protozoological laboratory. On the ground floor of the hospital there were two wards, each of 14 beds. On the first floor there were another ward of 14 beds, a smaller ward, and several rooms for one or two patients, with large terraces overlooking the harbour and garden. The total number of patients admitted to the hospital from 1901 to July, 1907, was 3820, which gave an average of about 588 per annum. The courses for students were both practical and theoretical; there was a short course held twice a year, lasting only three weeks, for the medical officers of ships. During that time they were taught the hygiene of vessels, including food and water examination, care of the sick on board, the duties of a ship medical officer, such as the prevention and stamping out of infectious diseases, quarantine, and disinfection, and practical information about malaria, sleeping sickness, kala-azar, yellow fever, scurvy, beriberi, Malta fever, plague, cholera, typhoid fever, dysentery, and helminthology. The tropical course lasted ten weeks and was also held twice in the year, special attention being paid to protozoology. Dr. Sandwith saw also the Noch-Giemsa apparatus for killing rats on ships. The gas derived from combustion of coke required 12 hours to disinfect a large passenger steamer. They saw some rats killed with that gas in half a minute in a bell glass, and it was believed that all rats were destroyed on a steamer in about ten minutes after exposure to the gas. The gas consisted of about 8 per cent. carbon monoxide with a little carbonic acid and some 70 per cent. of nitrogen. The cost of disinfecting a moderate-sized steamer was £7 10*s*. In addition to the compulsory destruction of rats on vessels arriving from a plague-infected port, owners often requested that rats when a nuisance on a ship should be killed by that method. The Noch-Giemsa apparatus did no harm to any cargo. The Hamburg Institution was full of vitality and doing excellent work. Enjoying, as it did, liberal financial support from the Government, it was already in a more favourable position than the tropical schools of London and Liverpool, and England must look to it that she is not left behind in the friendly competition for increased knowledge in the vital subjects of tropical medicine and hygiene.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Colour Photographs of Diseases of the Skin taken by the Lumière Process.—Exhibition of Photographs taken by the Three-colour Process.—The Notification of Births Act, 1907.—Case of Paraplegia due to an Intramedullary Lesion after Treatment by Operation.—Two Cases of Ununited Fracture successfully Treated by Bone Implantation.

A MEETING of this society was held on Nov. 21st, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. WALTER C. ORAM exhibited a selection of photographs in natural colour of Various Diseases of the Skin taken by the New Lumière Process and gave a short account of the theory of the process.

Dr. G. G. STOPFORD TAYLOR and Dr. R. W. MACKENNA gave a demonstration of Colour Photographs of Skin Diseases taken by the New Lumière Process. Dr. Mackenna said that to photograph diseases affecting the skin was to put any process of colour photography to a severe test, and in this the Lumière process had not been found wanting, for it faithfully reproduced the most delicate gradations of colour with an accuracy never attained by the artist's brush. Their main difficulty had been to obtain definition. Since an adequate supply of autochrome plates had been procurable in this country the weather conditions had been much opposed to successful photography. As a result their exposures had to be prolonged and they had not found it possible to work with a smaller aperture than F.8. Their shortest exposure had been 48 seconds and their longest 20 minutes, but they had great hopes that when the light improved again it would be possible to obtain photographs not only perfect in colour but rich in detail. The photographs shown illustrated various forms of eczema, psoriasis, scabies, syphilitic eruptions, and tertiary ulcerations before and after treatment, lupus and tuberculosis cutis, acne vulgaris, medicinal eruptions, and sycosis.

Dr. K. A. GROSSMANN gave an account of Photography in Natural Colours by the Three-colour Method. The colour screens used for producing the three negatives were demonstrated, also the three positives printed from the three negatives in their respective complementary colours. The three negatives were to be superimposed and if well done this gave the correct representation of the original. The process was laborious and required a great deal of time. A number of slides of test objects, of leprosy patients, and of microphotographs were shown.

Dr. E. W. HOPE read a note on the objects of the Notification of Births Act, 1907.[1] A declining birth-rate and a high infant mortality had led to various legislative measures designed to lessen the loss of infant life. The Act in question would enable help and guidance to be given to poor women at an earlier period of the infant's existence than was possible now, and it was hoped that such assistance might lessen the mortality during the earlier weeks and months of life which occurred to so great an extent in Liverpool and elsewhere. The obligations upon the medical man were not arduous, but it was hoped that in every case in which a medical man was in attendance the fact would be stated upon the form for notification, and in these cases no visit would be paid by the officer of the health committee unless it was specially asked for. Out of the 24,000 births which took place annually in Liverpool it was estimated that 15,000 were attended by midwives, nearly all of whom were well trained and fully qualified.—Mr. ALBERT E. DAVIS, C.C., was opposed to the adoption of the Bill on the ground that notification involved a breach of professional confidence.—Sir JAMES BARR moved the following proposition:—

> In the opinion of this meeting of the members of the Liverpool Medical Institution the Notification of Births Act, 1907, should be adopted by the county borough of Liverpool.

—Dr. W. CARTER seconded the motion and said that everyone should support to the utmost Dr. Hope in his effort to check the waste of infant life in Liverpool. The startling fact that of the total number of deaths (4137) under one year of age last year 1057, or more than a quarter, took place in the first month of life showed the importance of early information being given so that skilled members of the female sanitary staff might visit the mothers who were often very ignorant of the duties of motherhood and when necessary give them kindly instruction in the way to rear their infants. "Why," he asked, "should it be a breach of confidence on the part of the doctor to state within 36 hours after birth a fact which must of necessity be known six weeks after it?"—Dr. A. STOOKES and Dr. J. R. LOGAN having spoken in its favour the motion was carried.

Dr. W. B. WARRINGTON and Mr. K. W. MONSARRAT showed a patient who suffered from Paraplegia due to an Intramedullary Lesion and who had been treated with some success by the removal of a local accumulation of fluid. The patient, a young man, was able to walk across the floor of the lecture theatre with the aid of crutches.—Mr. R. W. MURRAY, Dr. F. J. S. HEANEY, and Dr. STANSFIELD discussed the case.

Mr. RUSHTON PARKER showed two patients in whom he had obtained Union of previously Ununited Fractures of the Humerus by means of implantation of bone.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Resuscitation of a Child Apparently Dead from Chloroform Syncope.—Administration of the Midwives Act of 1902.—Operative Treatment of Middle-ear Disease in Children.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 22nd, Dr. JAMES ALLAN being in the chair.

[1] See also our Liverpool correspondent's letter.

Mr. J. F. DOBSON read notes of a successful case of Resuscitation of a Child apparently dead from Chloroform Syncope. The abdomen was opened and the peritoneum stripped off the diaphragm and the heart, motionless and flaccid, was massaged through the diaphragm until beating recommenced.—Professor A. S. F. GRÜNBAUM in discussing the case drew attention to the length of time during which a child's heart remained excitable. He had seen in two cases at post-mortem examinations hearts removed six and ten hours after death prove excitable when placed under suitable conditions.

Dr. W. H. CHEETHAM read a paper on the Administration of the Midwives Act of 1902. He said that in the North Riding of Yorkshire the names of 146 women were received, of whom by Dec. 31st, 1905, 79 were placed on the Register, only 13 of these having received any training. During the year 1906, 1282 cases in the Riding were attended by midwives; one at Thornaby-on-Tees attended 198 cases and one at North Ormesby 127. The following "records" were received during that year by the supervising authority: still-births, nine; miscarriages, five; premature birth, six; death of child, one; puerperal septicæmia, one; hyperpyrexia, one; retained placenta, three; and difficult delivery, medical aid, four. During the four years the women had been under observation there had been a marked improvement in the manner in which they did their work. Certain associations were providing training for women; the North Riding County Council had established nursing scholarships for the purpose. He thought the difficulty was not so much the supply of certified women but the question, "Could they make a living wage?" At the present the average fee per case was 10*s*. In his opinion, in the course of 10 or 15 years' time, most of the cases—especially in urban districts—would be attended by women. He estimated that at least 85 per cent. of midwives registered at the passing of the Act did so on the strength of having been in practice at the time.

Dr. A. L. WHITEHEAD read a paper on the Operative Treatment of Middle-ear Disease in Children. The value of early incision of the membrana tympani in cases of acute otitis media for the relief of pain, to arrest the spread of inflammation, and to prevent an acute attack from becoming chronic was urged. The importance of thorough examination and surgical treatment of the nose and naso-pharynx to prevent the recurrence of acute attacks and in the treatment of chronic otitis media was emphasised. The serious complications of otitis media were mentioned and the differential diagnosis with a view to operative interference was discussed. The relative frequency of meningitis compared with sinus thrombosis was pointed out and the comparative rarity of intracranial abscess was mentioned, temporo-sphenoidal abscess in particular being almost unknown in children.

Mr. H. SECKER WALKER showed a single woman, aged 36 years, with Slate-blue Staining of the Skin of the Lids of each Eye. The stain could be dissolved off and was not due to coloured sweat; it had been present eight years and was a little darker in colour at her menstrual periods.

Mr. E. S. G. FOWLER showed an Anencephalic Monster with Deficiency of the Cervical and most of the Dorsal Vertebral Arches, associated with Hydramnios. The pregnancy was at about the seventh month and the presentation was transverse.

Dr. S. T. ROWLING showed a Drop-bottle Regulator and Anæsthetist's Screen. This simple apparatus gave a continuous administration and therefore a regular anæsthetic atmosphere. The quantity was regulated by a coarse and fine adjustment. The dosage was accurate—the number of drops in five seconds × 3, or the number of drops in 15 seconds, was the quantity of chloroform in minims per minute. The method combined the advantages of the percentage and open methods of chloroform administration. The framework, covered with a sterilised towel, formed an excellent anæsthetist's screen.

Mr. W. THOMPSON showed a Lodicular Odontome which took origin from the root of a wisdom tooth of a youth, aged 17 years. It formed a tumour projecting from the angle of the lower jaw a little larger than a Barcelona nut. It had been growing for two years.

Dr. T. WARDROP GRIFFITH showed a case of a child, aged two years, who presented slight Hemiplegia, the leg, the arm, and the lower part of the face on the right side being affected. There were slight and almost continuous rhythmical movements of the affected limbs. There was a partial third nerve palsy on the left side. Under the use of mercury some temporary improvement took place but there appeared now to be some slight involvement of the right third nerve as well. These symptoms seemed to point to some lesion involving or pressing on the left crus cerebri, and subsequently involving the crus on the right side. Though the gradual onset was suggestive of neoplasm there was no vomiting or optic neuritis.

Mr. R. L. KNAGGS showed a child, aged six months, in whom amputation of the leg for Sarcoma of the Tibia had been performed.

Mr. H. LITTLEWOOD and Dr. E. F. TREVELYAN showed a man, aged 60 years, on whom an operation had been successfully performed for Lympho-sarcoma involving both tonsils, the base of the tongue, posterior pharyngeal wall, and the glands of the left side of the neck.

Mr. LITTLEWOOD showed a small Calculus successfully removed from the left ureter of a man, aged 20 years. The skiagram by Dr. L. A. Rowden was also shown.

Cases and specimens were also shown by Dr. A. BRONNER, Dr. ALLAN, Mr. B. G. A. MOYNIHAN, Dr. T. CHURTON, and Dr. J. B. HELLIER.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Functional Paraplegia.—Exhibition of Cases.

A MEETING of this section was held on Nov. 8th, Dr. J. M. REDMOND, the President, being in the chair.

Dr. JAMES CRAIG showed a man, aged 23 years, who had been admitted to the Meath Hospital in March, 1906, complaining of pain, coldness, and a dead feeling in his left leg. He attributed his condition to a wetting, received a year before, when he wore a broken boot. Examination revealed increased knee-jerks, some attempt at ankle clonus in the left leg, and slight nystagmoid movements of the eyeballs. There was no slurring of speech. Rhythmical tremors appeared in the limbs on using them. He was thought to have disseminated sclerosis and left hospital in about six weeks without any change in his condition. He weighed 10 stones 2 pounds on leaving hospital in April, 1906. He came into hospital again about a month ago, this time under Dr. Craig's care. He now weighed only 8 stones 7 pounds and appeared to be wasted, but the wasting was quite general. He was unable to stand with his eyes closed and staggered considerably when walking. The knee-jerks were increased; there was no ankle clonus, but on the left side a few spasms of rectus clonus were elicited which gave him pain. There was a flexor plantar reflex. Hyperæsthesia to touch, pain, and heat was universal. He had a fairly coarse tremor, seen well in his arm when he placed a forefinger on the tip of his nose. He had very slight nystagmoid twitches on extreme lateral movement of the eyeballs. Sir Henry Swanzy reported that otherwise his eyes were perfectly normal in every respect. There was no trouble connected with either the bladder or the rectum. During his previous stay in hospital the diagnosis of disseminated sclerosis was undoubtedly made on the weakness of the legs with increased knee-jerks, the tremor, and the nystagmoid twitchings. The case was, however, a functional one. The pain and numbness complained of early in 1905 were probably due to sciatica. When he came into hospital on the present occasion ataxia was the most prominent feature of the case but he was now free from ataxia. The knee jerks were also less responsive and even the tremor was not so marked. The points upon which Dr. Craig relied in pronouncing against the existence of an organic lesion in the brain or cord were—(1) absence of ocular signs, such as optic nerve atrophy, contraction of the field of vision, limitation of muscular movements; (2) absence of any involvement of the bladder and rectum; and (3) absence of true ankle clonus and toe-extension phenomenon. He regarded the patient's condition as neurasthenic rather than hysterical.—Sir CHRISTOPHER NIXON said that a case which presented such varied disturbances from the normal could not be properly regarded as simply functional in character. He thought that the term functional paraplegia was open to grave objection and that the case was in reality one of disseminated sclerosis undergoing a period of remission.—Dr. R. TRAVERS SMITH said that he did not think that they need be afraid of diagnosing functional disturbance while still keeping their minds open to the possibility of its being only

preliminary to permanent disturbance. He was in favour of the diagnosis of functional disease.

Dr. WILLIAM A. WINTER showed a case of Amyotrophic Lateral Sclerosis. The patient was a man, aged 38 years, who about six months before Dr. Winter first saw him noticed that there was wasting of the muscles between the thumb and first finger of the right hand; he did not then notice any weakness. Since that time atrophy of the muscles had proceeded rather rapidly, the muscles chiefly involved being those of the right hand, the extensor of the right wrist, and the deltoid and triceps, but there was also some wasting of the muscles of the left hand.

Dr. TRAVERS SMITH showed a case of Progressive Muscular Dystrophy, a case of Paroxysmal Tachycardia, and a man who exhibited symptoms of a combination of Locomotor Ataxia and Multiple Neuritis.

SECTION OF OBSTETRICS.

President's Address.—Exhibition of Cases and Specimens.

A meeting of this section was held on Nov. 15th, Mr. E. HASTINGS TWEEDY, the President, being in the chair.

Mr. TWEEDY, in thanking the section for electing him as President, said that the position had been held in the past by men who had made the Obstetric School of Dublin famous, and that it was through the Royal Academy of Medicine in Ireland that the profession in Dublin had the opportunity of making known to the world at large that their work was worthy of more than provincial fame. He complained that the section had not of late years received the support which it deserved and that it lacked the vitality of the past. This slackening of interest dated from about the beginning of the Boer War in South Africa and in his opinion might be attributed to it. The war had a most disturbing influence on men's minds and during a period of almost daily disaster the members of this section had no heart to attend the meetings; thus habits were formed of which the influence was still felt. Of other explanations the most plausible was that which suggested that gynæcology had ceased in its power to interest and that as an art it had made no appreciable advance within the last decade. In combating this view he dealt with the radical changes which had been effected within the past four years. As an illustration of the progress which had been made he said that indiarubber gloves were now universally worn not only in abdominal but also in vaginal operations. The rinsing the cleansed hand in methylated spirit and the partially filling the gloves with similar fluid enabled them to be readily slipped on and secured an almost aseptic condition of their fluid contents even after they had been worn during a two-hours' operation; thus injury to the glove was not fraught with fear of septic infection through oozing of its fluid contents. Much of the elaborate ritual formerly considered necessary in hand-washing was now dispensed with. Skin maceration in the neighbourhood of the field of operation was prevented by painting the surface with a saturated solution of picric acid in spirit. This solution was also of great use when applied to papillary erosions of the less chronic type. In vaginal surgery the field of operation had been rendered more sterile by the clipping of a strip of boiled Billroth tissue across the perineum to shut off the anal region, whilst the bags which inclosed the legs were now connected with an abdominal apron which prevented the operator's hands from being contaminated in the event of his having to pause in the midst of an operation to make a bimanual examination. The large semilunar incision of Strassemann provided a rapid and ready method of separating the bladder from the cervix and performing extensive operations through this route. For vaginal fixation the older -shaped incision was to be preferred, but here again an improved technique was adopted in that the peritoneum was now insinuated between the vaginal wall and the fixing sutures of the uterus. The technique for the cure of cystoceles and rectoceles had been much improved—in the former by tucking up the bladder and rolling it inwards on itself with fixing catgut sutures, and in the latter by joining again the fibres of the levator muscle and pelvic fascia. The vaginal operation for cancer of the uterus was now much more extensive than formerly. Tubes containing pus were now dealt with in a way that almost insured a safe recovery. If very acute the abscess could be opened by entering the abdomen through the posterior fornix and directly draining through this hole. If a relapse took place the pus was rendered less septic and the case might be considered as amenable only to the more radical operative procedures. In this eventuality he strongly advised the splitting of the uterus in two halves, the insertion of the whole hand into the abdominal cavity, the breaking down of adhesions, and the forcible dragging out of the diseased tube with its attached half of the uterus, the clamping of the tubes outside the vulva, the pushing the clamps into the abdomen, and the insertion of iodoform gauze between them (Landau's operation). Atmocausis had enabled many hæmorrhagic cases to be cured that formerly would have required removal of the uterus. The President, in concluding his address, expressed the hope that he had shown that gynæcology had not stood still but that its advance had been as great in recent years as throughout any period of its existence.

Dr. A. N. HOLMES exhibited cases (1) of Carcinoma of the Ovary and (2) of Cystoma of the Ovary, both from patients aged 48 years and in both of which great difficulty was experienced in performing the operation. Both patients had also made a good recovery. In the first case the woman's last pregnancy had been a year previously and after it the menses had ceased. In the second case the woman had never been pregnant. The chief points of interest were that in the second case extensive adhesions had been set up without causing symptoms, while in the first case the symptoms had been coming on for three years and it was curious that the disease had not spread further than it did.

The PRESIDENT exhibited a Uterus removed by Wertheim's operation in which the amount of adjoining tissue taken away was greater than any that he had ever seen. Wertheim said that the ureter should not be disturbed from its bed. In at least one-third of his (the President's) cases the cancer had got below the ureter which had to be lifted in order to dig out the cancer. It was becoming a common thing with him to put a bullet forceps under the ureter and then to lift it up with the forceps while he took away the cellular tissue beneath. He had frequently had the ureter lying out of its bed through its whole extent, and yet he had never had a leakage or a fistula, which showed that there was a great deal too much respect paid to the ureter.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

A meeting of this society was held at Sheffield on Nov. 15th, Dr. E. O. Croft (Leeds), the President, being in the chair.—Mr. R Favell (Sheffield) showed a case of Syphilitic Hypertrophic Enlargement of the Labia Majora in a patient, aged 28 years, who had one child nine years ago. There had been no abortions. She gave a history of a lump in the external genitals for the last eight years. Soon after her confinement a year previously she had noticed some small hard lumps about the anus which never quite disappeared. Five years ago one of these tumours was of the size of a hen's egg and within the last six months others had appeared. The largest growth was of the size of a small cocoa-nut and was in the left labium majus. Both labia were excised and microscopic examination showed a loosely woven fibrous tissue structure.—Mr. Archibald W. Cuff (Sheffield) showed Calculi removed per vaginam from the left ureter of a patient who suffered from symptoms of stone in the kidney. A radiograph located them two inches above the entrance of the ureter into the bladder.—Dr. Miles H. Phillips (Sheffield) showed a uterus containing a Submucous Fibroid undergoing Sarcomatous Change. It was removed by abdominal section from a nulliparous patient, aged 50 years, in whom menorrhagia had been present for nine years. On admission to hospital the temperature was 101° F. and small sloughs were detected in the vaginal discharge. The cervix uteri was patulous and the uterus was of the size of a four months' pregnancy. Exploration of its cavity revealed a friable growth which on microscopical examination proved to be sarcomatous. The cervix was therefore stitched and removal of the uterus and appendages was carried out by abdominal section. Five weeks after the operation the patient died suddenly from pulmonary embolism and the necropsy revealed septic thrombi in the internal iliac veins and an embolus in a branch of the right pulmonary artery. There was no peritonitis. The microscopic sections proved the tumour to be a mixed-cell sarcoma.—Dr. Percival E Barber (Sheffield) mentioned the case of a woman, aged 34 years, who had had one child three years ago. Two weeks after an abortion bleeding began and was accompanied by a febrile condition. The uterus was enlarged and the

cervix was patulous. Suspecting chorion-epithelioma a scraping removed by the blunt curette was examined microscopically but did not confirm the suspicion. As the patient was becoming progressively worse abdominal section was performed but her condition did not justify an attempt at the removal of the uterus being carried out. Recovery, however, gradually took place and she became perfectly well.—Dr. W. E Fothergill (Manchester) mentioned two cases illustrating the value of Schuchardt's Para-vaginal Incision. In the case of a single woman, aged 38 years, with a large submucous fibroid, the uterus extending to the umbilicus, abdominal section was contra-indicated on account of an extremely offensive discharge in a debilitated patient. The removal of the tumour was rendered possible per vaginam by an incision into the left ischio-rectal fossa and extending backwards to a point half an inch behind the anus. In the second instance, also in a single woman with a very narrow vagina, hysterectomy for a myomatous uterus was performed after a preliminary incision.—Mr. Favell also reported four cases of Ectopic Gestation. The first patient was 27 years of age and had one child. The history showed that 12 months ago her last period began a month previously and continued for a week. It was followed by a severe peritoneal crisis. On admission to hospital there was marked tenderness in the right flank and a soft swelling could be felt behind the uterus. Abdominal section performed forthwith revealed free blood in the peritoneal cavity and clots in the pouch of Douglas. One inch from the uterine attachment of the right Fallopian tube there was a swelling of the size of a filbert nut, on the posterior aspect of which a rent had occurred. The tube was removed and recovery was uninterrupted. The second case was one of Full-term Ectopic Gestation in a woman, aged 30 years, who had been married ten years and had one child nine years old. Menstruation was in abeyance from November, 1906, to July, 1907, when she had a red vaginal discharge for a week. At this time she felt movements in the abdomen. There was never any pain. She had become progressively stouter and thought herself pregnant, but as labour did not come on she sought advice a fortnight since. The abdominal enlargement resembled the full-term uterus but no fœtal parts could be felt and no heart sounds or souffle could be heard. At the upper limit of the enlargement there was something like a softened fœtal head. Bimanually the cervix was found to be hard and closed and the uterus lay between the tumour and the symphysis pubis. The sound passed for a distance of five inches. Abdominal section showed the gestation sac to be adherent to the parietes and omentum and to be intimately connected with the left appendage. The uterus lay in front and to the right. The sac and its contents were removed intact and although there was considerable shock following the operation the patient was making a good recovery. In the two other cases there was disease of the opposite appendage, which was also removed, and in one case the uterus was also removed as the sac was intimately adherent to it.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 7th, Dr. G. Thomson, the President, being in the chair.—Dr. H. G. M. Henry showed: 1. A case of Double Optic Neuritis, presumably from cerebral tumour. 2. A case of Left Abductor Laryngeal Paralysis in a man aged 25 years. Aortic aneurysm was suspected, an x-ray photograph giving an indistinct shadow in the region of the arch. 3. Specimens from a case of Carcinoma of the Œsophagus which had infiltrated the cervical spine and led to spontaneous fracture and sudden death.—In the discussion Dr. D. Burgess thought that trephining for optic neuritis was not of great value in the absence of localising signs, as when patients came for treatment the neuritis was usually on the decline.—Mr. Graham S. Simpson showed a specimen of Carcinoma of the Colon removed from a woman aged 21 years. She was admitted for subacute obstruction and was operated on at once. A growth was found just above the ileo cæcal valve and an ileo sigmoid-ostomy was performed. She quickly recovered and was again operated on a fortnight later, when another growth was found at the hepatic flexure. The cæcum, ascending colon, and small parts of the ileum and transverse colon were excised. The patient made a good recovery and was now, five months later, in excellent health and had gained one and a half stones in weight. Pathologically the interest of the case was chiefly this, that the two growths of the colon were of entirely different microscopical appearance, one being typically columnar-celled, and the other exactly resembling a scirrhous cancer of the breast, being made up of irregular-shaped cells distributed in lines. Micro-photographs of the tumours were shown.—Dr. A. E. Naish read a paper on Some Points in the Treatment of Children. He laid great stress on the care of the skin in febrile diseases. For this reason he condemned linseed poultices in broncho-pneumonia, preferring, when necessary, a light mustard poultice for a short time. The use of cold to the head was not sufficiently appreciated as a sedative. The ice-bag on the chest in pneumonia had little effect on the disease, though it might relieve symptoms. Fresh air was of the greatest value, especially in relapsing broncho-pneumonia. Blood-letting should be used in cases of great cyanosis, several leeches being applied or in urgent cases phlebotomy of the external jugular being performed. With regard to feeding in some acute diseases, cerebral affections or severe malnutrition, he advised the use of the stomach tube passed through the nose. Colon irrigation in cases of colitis—cold water where there was high pyrexia—should be used. In acute cases where there was nasal obstruction nasal syringing should be thorough. With regard to drugs they must be sure that at any rate they were harmless. Simple syrups were bad for the gastritis so common in broncho-pneumonia and other febrile diseases. Children were very tolerant of purgatives of belladonna (a specific for nocturnal enuresis in large doses), and of arsenic, useful in anæmia and chorea when the neurotic element was predominant. Salicylates could be given in large doses. Morphine and other narcotics must be given in very small doses. With regard to special diseases of the alimentary canal, he divided gastro-enteritis into (1) cases due to over-feeding to be treated by a purge; and (2) the bacterial infections, the acute non-choleraic, the choleraic, and the chronic. In the acute non-choleraic, treatment should consist of a purge—castor-oil—and gastric and colic irrigation. No food but plenty of water should be given and the patient kept very warm. Stimulants were often necessary and sometimes morphine (gr. $\frac{1}{60}$). Hypodermic saline injections and later astringents were sometimes indicated. In the choleraic type similar treatment, with special reliance on the saline infusions, morphine, and atropine, was indicated. Chronic enteritis should be treated with colon irrigations with water, later by astringents and large doses of bismuth. Opium was useful when there was much tenesmus. Finally, a great factor for good was change of air.—Dr. J. Sorley agreed that large doses of salicylates were useful and well borne. In pneumonia he preferred the jacket poultice.—Dr. R. Williams had seen two series of cases, one treated by poultices and the other by ice-bags. The mortality was the same but the latter class needed much more watching.—Dr. A. E. Barnes was opposed to the use of the ice-bag in children as they lost heat with such rapidity. He had seen much benefit from hot baths in broncho pneumonia. He disapproved of stomach and colon irrigations in acute gastritis and enteritis, these organs being well emptied by vomiting and diarrhœa. He relied on purges, magnesium sulphate, and a diet of tea or albumin water.—Dr. J. W. Martin believed in poultices and did not use the ice-bags.—Mr. G. Simpson could not agree that belladonna was a specific for nocturnal enuresis.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on Nov. 14th, when the following were among the cases shown:—Dr. T. Oliver showed a man, aged 53 years, with symptoms suggestive of Thoracic Aneurysm but without any visible bulging or impulse. There were well-marked tracheal tugging and inequality of the pulses and pupils. Skiagraphy showed marked dilatation of the upper part of the descending thoracic aorta.—Dr. G. R. Murray showed: 1. A boy, aged nine years, suffering from Post-diphtheritic Paralysis. In addition to the paralysis of the palate there were slight internal strabismus and affection of accommodation, together with weakness of the legs and loss of the patellar reflex. 2. A woman, aged 32 years, with a Wandering Spleen. The patient was admitted after a severe attack of abdominal pain and was then found to have a curiously shaped tumour in the right iliac fossa. During the course of some days the tumour gradually found its way into the left hypochondrium and was recognised as the spleen.—Dr. J. S. McCracken showed a Mongol, aged two years, with Albinism, Nystagmus, and Congenital Heart Disease.—Mr. J. Rutherford Morison exhibited a patient with severe Cellulitis of the Hand and Arm undergoing successful treatment by

Bier's method.—Mr. H. B. Angus exhibited a girl, aged six years, showing the results of tendon lengthening for Volkmann's ischæmic contraction. The hand was claw-like and useless but had been almost completely restored. —Mr. J. W. Leech exhibited eight patients after operation for Ruptured Gastric Ulcer and one after Duodenal Perforation, being the nine recoveries from a series of 12 cases operated upon. The time after perforation varied from five and a half hours to 48 hours. All were on the anterior wall; in three there was limited extravasation only, the remainder being examples of general peritoneal flood and the details of treatment varied correspondingly. The first operation was performed in January, 1905, and the last in October, 1907, and all the patients were in good health and free from stomach symptoms.—Mr. G. Grey Turner showed: 1. A patient, aged 24 years, after repeated Fracture of the Patella. The patella was sutured in June, 1907. At the end of six weeks while walking the patient fell and broke the bone in the same place; the operation was repeated and the joint was now perfectly restored. 2. A patient six months after an operation for Removal of the Whole Tongue with the floor of the mouth and glands in the left side of the neck. There was no local recurrence and the patient spoke very well. Some enlarged glands on the opposite side now required removal.—Dr. D. W. Patterson showed a case of Tertiary Syphilis limited to one hand. The patient was a woman and the condition had existed for four years. There were healed ulcers and brawny indurations producing contraction of the fingers. —Dr. H. Percy Bennett exhibited an example of Limited Rupture of the Choroid in a young man.—Dr. J. D. Wardale showed a case of Retrobulbar Neuritis in a young man, one of a family in whom the males descended from the mother's side were nearly all affected.—Mr. T. G. Ouston showed (1) a man, aged 32 years, suffering from a Fibroma of the Vocal Cord; and (2) a woman, aged 46 years, with an Epithelioma of the Right Margin and Base of the Epiglottis.—Dr. S. S. Whillis showed a series of cases illustrating different methods of treating Suppuration in the Antrum of Highmore.—Dr. H. Smurthwaite showed a case after operation for Subdural Abscess and Lateral Sinus Thrombosis. At the first operation the mastoid was cleared and about one drachm of pus was evacuated from beneath the dura mater. On the next night, after a rigor, the lateral sinus was exposed and was found to contain pus. The recovery of the patient was uneventful.—Dr. Murray read a short communication on Wandering Spleen, based on the case which he showed earlier in the evening. Speaking of treatment Dr. Murray suggested the use of the x rays to reduce the size of the organ, followed by the use of a padded belt to retain it in position. Operative treatment if called for should take the form of fixation rather than excision.—Mr. Grey Turner showed a Spleen weighing 4¼ pounds which he had removed on account of the inconvenience caused by its great mobility. The patient made a good recovery.—Mr. W. G. Richardson then read a short paper on the Advantages of Temporary Gastrostomy in the Treatment of Ruptured Gastric and Duodenal Ulcer. He advocated this proceeding as a quick and safe method of dealing with the ulcer and one which was likely to diminish still further the mortality as well as very greatly adding to the comfort of the patient after operation.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at the Medical Institute, Birmingham, on Nov. 13th, Dr. Justin M McCarthy, the President, being in the chair.—Mr. C. A. Leedham-Green showed a girl, aged 16 years, who was taken to the Queen's Hospital on June 6th, having been accidentally shot in the abdomen with a saloon rifle. On examination a small wound was seen just to the left of the umbilicus where the bullet had entered. The patient's condition was surprisingly good and save for apparently a little fright she seemed none the worse. She suffered neither pain nor tenderness in the abdomen, the muscular walls of which were relaxed, and the liver dulness was present. Under an anæsthetic the abdomen was opened about half an hour after the receipt of the injury. The peritoneal cavity was found to be full of fluid and clotted blood, and a large vessel in the great omentum was seen to be bleeding freely. This was secured and a search was made for further injuries. A faint fæcal odour was noticed, indicating a perforation of the large intestine. On examination the small intestine was found to be pierced in six places and the descending colon in one. These were rapidly sutured and afterwards a wound was discovered across the mesentery of the small intestine which cut off the blood-supply to some six inches of bowel. The portion of the bowel affected was pale, cold, and flaccid, showing that its circulation was gravely imperilled. The difficult question arose as to the proper way of dealing with this complication, for it was highly improbable that the patient could at this stage of the operation stand the prolongation and additional shock of an enterectomy. It was therefore decided to assist the circulation of the damaged bowel by endeavouring to establish an anastomosis of the vessels of the great omentum with the affected gut. Accordingly, the large omentum was wrapped round the injured bowel and fixed to it by a few fine stitches and as quickly as possible the operation was completed. In spite of the loss of blood and shock of the operation the patient made an excellent recovery and was able to leave the hospital three weeks later. It is, of course, impossible to say how far the grafting of the great omentum to the injured gut helped the recovery of the patient and whether the gut could have recovered its circulation without this assistance. At the same time it seemed highly improbable that the gut could endure so large a deprivation of its blood-supply, and experiments have been made showing that an omental graft is able in many instances to carry on the circulation of portions of the viscera where the natural blood-supply has been completely cut off.—Mr. George Heaton showed a man who had a large, soft, elastic swelling situated just above the left knee-joint on the inner side of the thigh. The tumour had been diagnosed clinically as a sarcoma but the patient would not allow amputation of the thigh. The tumour was soft, elastic, did not pulsate, extended into the popliteal space, and had been growing for some three months. A piece of growth removed for microscopic examination showed it to have a definite fibrous capsule and to consist of young fibrous connective tissue with a large amount of nævoid tissue and in parts mixed with fatty and myxomatous tissue. Clinically the growth seemed to be sarcomatous but the microscopic appearances seemed to negative this view.—Dr. J. Douglas Stanley showed a man with an Aneurysm of the Aorta.—Mr. William Billington showed a man with Femoral Aneurysm for which the external iliac artery had been tied.—Mr. Leonard P. Gamgee showed a boy with a Congenital Tumour of the Buttock.—Mr. Alexander W. Nuthall showed a Stomach on which he had performed Gastro-jejunostomy for Gastric Ulcer, death being due to perforation of a second ulcer.—Mr. J. Jameson Evans showed microscopic sections of a Congenital Tumour of the Eyelid. In the main it was lipomatous in structure but it was also somewhat vascular, many of the large blood-vessels showing perivascular thickening.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 20th, Dr. L. W. Marshall, the President, being in the chair.—Dr. Owen H. Peters read a paper upon a Practical Survey of the Course and Treatment of Diphtheria. He premised that he could only touch upon the leading points of the disease. Time would not permit him to support his assertions by the necessary explanations and references to numerous authorities. The introduction of antitoxin had materially modified the subsequent behaviour of the disease—apart from the serum disturbances which added a new and difficult feature to the middle of its course. They could imagine that in pre-antitoxin days the degree of anæmia and general asthenia must have been very marked and this would explain why the administration of iron was so widely accepted as a routine procedure. But the effect of antitoxin seemed to be not only to neutralise and to stay the action of the toxin but to have some further alterative influence, for almost invariably from the tenth day of the disease the patient made such rapid advances in appearance and general well-being that tonics and iron were quite unnecessary. It was a significant fact that iron was not even mentioned in the last edition of "Allbutt's System," and it appeared that strychnine, at least for the early stages, might meet the same fate. Owing to these altered features, along with the new facts of bacteriology and the results of closer study of diphtheria in the larger fever hospitals, a new school of writers had apparently arisen. It was these modified views particularly that he regretted time would not allow him to discuss thoroughly. In continuing, antitoxin as a curative agent was mentioned, along with vaccination, as constituting perhaps the two greatest

triumphs of medical science, but where antitoxin had been withheld until too late rest in bed was the only preventive or remedy against heart paralysis available, since all medicinal treatment had hitherto failed. He was surprised at J. D. Rolleston having put forward adrenalin as an efficient stimulant and preventive of heart paralysis. He thought that Dixon and others had long ago established the fact that adrenalin administered by the mouth had no effect whatever upon the blood pressure, the inference being that in absorption from the alimentary canal it was destroyed or changed. He had, however, given it a very fair trial but had observed no effect, good or otherwise, even when administered in double the maximum doses advised by Rolleston. As a matter of fact, the general tendency to rapid improvement after antitoxin might easily be erroneously attributed to any remedy administered at this time.—The paper was discussed by Dr. A. B. Dunne, Dr. P. Boobbyer, Dr. J. H. Thompson, Dr. F. R. Mutch, Dr. W. Hunter, and the President, and Dr. Peters replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 15th, Dr. J. Walker Downie, the President, being in the chair.—Dr. G. H. Edington showed a patient, aged eight years, the subject of Pyopericardium. The pericardial condition had arisen in connexion with an abscess of the right thigh. Both lesions were due to infection by staphylococcus aureus. After a diagnostic puncture in the fifth interspace one and a half inches from the left border of the sternum, pericardotomy was performed through the triangularis sterni with resection of a portion of the fifth cartilage. The drainage-tube was removed on the eighth day and the wound was soundly healed four weeks later. He drew attention to the anatomical relation of the left pleura to the chest wall and referred to the work of Delorme and Mignon. He concluded that in this case the pleura was probably situated far out from the sternum, as it was not visible at the operation and no pleuritic trouble had followed the diagnostic puncture Recovery was uninterrupted and the heart was now apparently perfectly healthy.—Dr. A. A. Young showed cases of: 1. Fracture of both Malleoli caused by a slip, the foot doubling up under the patient. 2. Fracture of the Fibula with Displacement of the Foot backwards; massage was begun after 15 days and the patient started work eight weeks after. 3. Compound Dislocation of the Astragalus from a fall from scaffolding. The foot was inverted and the astragalus freed from its ligamentous attachments. The astragalus was therefore removed and the wound healed well. In all cases very little deformity now existed and function had been very completely restored.—Dr. Alex. MacLennan considered the early and accurate replacement of the ligaments the most important part of the treatment.—Dr. W. R. Hunter showed the liver from a case of Cirrhosis of the Liver in a child, aged nine years.

GLASGOW SOUTHERN MEDICAL SOCIETY. — A meeting of this society was held on Nov. 14th, Mr. A. E. Maylard, the President, being in the chair.—The first of a series of debates which are to take place during the coming session was opened by the President on the subject of the Diagnosis and Treatment of Appendicitis. Basing his remarks on an experience of over 300 cases, he said that, so far as he knew, there was no one symptom which could be called pathognomonic of the disease in any of its forms. Diagnosis was differential rather than direct and not infrequently a matter of reasoning by the negative method of exclusion. Pain of some kind was almost constant but was very variable in its manifestations. This variation was directly due to the situation of the appendix, whether more or less free in the peritoneal cavity or placed behind the cæcum or colon. As regards treatment, he had never seen any reason to depart from the practice which he advocated in a paper eight years ago—namely, endeavouring to obtain a free evacuation of the bowels as soon as possible by the hourly administration of sulphate of magnesium. It was not given as a curative agent or as a possible substitute for operation. As regards operation, the following were considered the conditions calling for surgical intervention: (1) Operation was imperative so soon as it was believed that the symptoms indicated perforation into the general peritoneal cavity; (2) operation was also imperative without delay, when, at the expiration of 48 hours, there were no evident signs of improvement; (3) the operation of appendicectomy was advisable at the end of a week in all cases of acute appendicitis which had taken even the most favourable course; and (4) appendicectomy should be performed in all cases of subacute recurrent attacks of appendicitis. As reasons for advising operation under the heading No. 3 it was contended that the removal of the organ at this particular period was exceptionally easy and safe and that all future complications would be prevented.—Dr. T. K. Monro, who opened the discussion which followed the reading of the President's paper, concurred with the latter in his remark that the diagnosis of appendicitis was largely a differential one, and he emphasised the importance of the mode of onset of the symptoms in an individual who from his age and otherwise was a likely subject for the disease. Rupture of a tubal pregnancy, perforation of a gastric ulcer, tuberculosis, and mucous colitis were among the conditions from which a diagnosis might have to be made. Dr. Monro pointed out that while fulminating cases and cases with abscess demanded immediate surgical interference, and while for relapsing cases surgical treatment was clearly indicated, there were many instances in which a first attack ran a favourable course and ended in recovery. For such cases he considered that the period of 48 hours allowed by the President was unnecessarily short but if after four days of appropriate treatment there was not a decided improvement he should recommend operation, though no abscess might be discovered.—Dr. John Barlow, Dr. Henry Rutherfurd, Dr. J. Lindsay Steven, Dr. George H. Edington, and others also took part in the discussion.

Reviews and Notices of Books.

A Text-book of Obstetrics. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Fifth edition, revised and enlarged. With 767 illustrations, 40 of them in colours. London and Philadelphia: W. B. Saunders Company. 1906. Pp. 915. Price 21*s.* net.

THE appearance of the fifth edition of this well-known text-book is a sufficient indication that it has been appreciated by its readers. Nor is this to be wondered at, as the book is in many ways an excellent one and the author has taken the opportunity afforded by the issue of this new edition to revise thoroughly the text. Professor Hirst does not express any opinion as to the truth or otherwise of the theory of the internal secretion of the corpus luteum, nor is it clear from his description of the development of this body that the question as to whether it is derived from the connective tissue of the ovary or from the cells of the membrana granulosa is one of some interest and in view of the theories as to its supposed functions of considerable importance. It is a pity that the figures illustrating the scheme of the development of the amnion have not been omitted, as it is clear that they no longer represent the condition as it really exists in the human ovum. Considering the almost total ignorance of the pathology of the placenta it would have been better if the author had cut out a great deal of the section dealing with degenerative changes in this organ, most of which is based on old pathological views which recent investigations on the normal anatomy and physiology of the placenta have shown to be largely erroneous. For example, the description of placental phthisis by the late Sir William Priestley is reproduced without any comment to show that it is not a recent observation and one possibly of very doubtful value. In the same way in the section on the deciduæ, by which the author apparently means the membrane lining the uterine cavity alone, whereas the term really includes all the structures which are expelled from the uterus at full term other than the fœtus, there is a lengthy description of various forms of so-called endometritis based on a number of old, and we think in many instances erroneous, observations. In a future edition the author would do well to limit the information in this chapter to facts which have been authenticated

by the work of recent observers. Professor Hirst does not believe that the estimation of the percentage of the ammonia nitrogen in the urine is a trustworthy guide to the diagnosis of the toxæmic vomiting of pregnancy or as an indication for the necessity for the induction of abortion in these cases. In the chapter on the management of labour the reader is told to use benzine and alcohol after scrubbing with hot water for the disinfection of his hands in the manner said to be described fully in the chapter on the preventive treatment of puerperal sepsis; but on looking up this reference no mention at all is made of benzine but the ordinary method recommended by Fürbringer is described. We are glad to see that great stress is laid on the use of rubber gloves in all cases. Professor Hirst thinks Bossi's dilator the best instrument for the rapid dilatation of the gravid or parturient cervix and reports that he has used it in 30 cases without any extensive laceration of the cervix. His results certainly have been better than those of most other obstetricians who have employed this instrument. The weak point of this work is, in our opinion, the fact that the author in his endeavour to include everything of importance has not been sufficiently critical in excluding old theories and descriptions of pathological conditions which are of doubtful value at the present day.

The index appears to be very complete and yet we find no entries under toxæmia, induction of premature labour (although induction of abortion is given), asepsis, or antisepsis, or disinfection of the hands.

Physical Diagnosis, with Case Examples of the Inductive Method. By HOWARD S. ANDERS, A.M., M.D., Professor of Physical Diagnosis, Medico-Chirurgical College, Philadelphia; Physician to the Philadelphia General Hospital, Tuberculosis Department. Illustrated. London: Sidney Appleton. 1907. Pp 456. Price 12*s.* 6*d.*

IT is a truism to say that practical medicine can only be thoroughly taught and learned either in the out patient department or in the wards of a general hospital. Further, the student must himself examine patients in order to make himself acquainted with the various normal and abnormal physical signs which may present themselves. Nevertheless, much help may be derived from a good text-book which describes the phenomena met with in disease. He may thence derive many hints as to how to percuss and to auscultate but especially he may receive instruction as to the deductions which he should draw from his examination. Dr. Anders states in his preface that in his teaching experience it has appeared to him that the average medical student tends to neglect or to misapprehend the intrinsic importance of two things—namely, technique and reason. The student is rather inclined to exhibit a superficial and hasty zeal and to endeavour to get at the physical signs somehow but without methodical and patient procedure and practice; his mental drift is towards jumping at conclusions from insufficient data and insufficient correlation. We agree with Dr. Anders in these views. A student is very prone to forget that in order to arrive at a correct diagnosis he must fully consider the progression of symptoms and an assemblage of physical signs. He must not rush at a conclusion from one physical sign or from one symptom. What is commoner in the out-patient department to hear a student say in answer to the question "What do you find?"—"A cavity at the right apex." When asked his reason for that reply he remarks, "Because there is bronchial breathing under the right clavicle." To avoid such errors Dr. Anders insists on two main principles upon which a diagnosis should be founded. First, insistence and emphasis are to be placed upon technical practice and precision. Secondly, he urges the inculcation of the inductive habit of thinking; the analysis of observed facts, the perception of their similarity of meaning, and thus the avoidance of an inconsequential fallacious empiricism. The application of this inductive method is practically limited to the special physical diagnosis of affections of the lungs and heart, and in the portion of this volume devoted to the diseases of these organs numerous illustrations will be found of Dr. Anders's contentions.

The book commences with some general remarks on physical signs and physical diagnosis and the importance of a knowledge of regional anatomy is insisted on. The physical signs which are found in connexion with morbid conditions of the lungs are then fully explained. A preliminary chapter is devoted to the topographic and relational anatomy of the chest. The thoracic landmarks are carefully described and the student will do well to make himself thoroughly acquainted with the details of this chapter before proceeding further. The methods of inspection, palpation, percussion, and auscultation are next described in a manner which is highly interesting and instructive and the deductions to be made from the examination are duly set forth. In that part of the volume devoted to the examination of the heart similar method and precision are adopted, so that the student, by means of Dr. Anders's remarks, will gain much knowledge which will be of use to him in his practical work. The examination of the abdomen and the investigation of the nervous system are also duly explained.

We can recommend a perusal of this volume to students and practitioners will also find it useful to refresh their memories when unusual complications of physical signs present themselves or when anomalous symptoms occur.

The Prevention of Infectious Diseases. By JOHN C. MCVAIL, M.D. St. And., D.P.H. Camb., F.R.S. Edin. London: Macmillan and Co. 1907. Pp. 290. Price 8*s.* 6*d.*

Dr. McVail has done well to publish his Lane lectures on the Prevention of Infectious Diseases which he delivered at Cooper College, San Francisco, in August, 1906, for they appeal to a much larger circle than the distinguished audience which he then addressed. The lectures are such as might have been expected of so experienced and able an administrator, being full of valuable information derived from research and practical experience and for that reason they are to be recommended to all who are engaged in or who are interested in public health.

The first chapter of the volume is taken up with public health organisation in Britain, giving a brief but lucid description of its several parts. The next is on the prevention of typhus fever and in this connexion extracts are given descriptive of the housing conditions in Glasgow 50 and 100 years ago; they are accompanied by illustrations which add greatly to their value. The descriptions are, as Dr. McVail truly says, Zolaesque. There is no comparison between the state of the slums of to-day and then. Unhealthy as some of the existing conditions are in many quarters of our large towns they are insignificant in either proportion or intensity when contrasted with the appallingly miserable and insanitary conditions in which the poorer people then lived. The narrow and filthy lanes, the dark and badly ventilated houses, the crowded state of the houses, and the absence of any cleansing or of sanitary conveniences rendered the poorer quarters unspeakably filthy. It was in these crowded and unhealthy areas, where neither sunlight nor fresh air entered, that typhus fever was rampant. With the sweeping away of these rookeries and the introduction of sanitary measures typhus fever has practically disappeared. It is an interesting and instructive chapter this on typhus fever, for it shows what can be, and has been, done for the betterment of the people when the conditions must have appeared to many at the time as utterly hopeless.

The next chapter is on enteric fever, the next on plague,

and then follow chapters on measles, scarlet fever, diphtheria, small-pox, and tuberculosis. That on the prevention of small-pox is full of facts which in these days of antivaccinationists are too likely to be forgotten. Let us quote some of Dr. McVail's figures. In the little town of Kilmarnock, with a population of 4200, a sixth of the total deaths during 36 years of the eighteenth century, when the deaths were carefully recorded in the parish schoolmaster's register, were due to small-pox. The disease was then a disease of childhood as much as measles is to-day, and of the deaths over 80 per cent. were those of children. Kilmarnock only illustrated a general truth, for in Edinburgh in 1744–46 in a total of 11,613 deaths 1165 were due to small-pox. In Glasgow, in 1783–1800, of 31,089 deaths from all causes, 5959 were due to small-pox. In London, in 1660–79, of every 80,000 deaths 4170 were from small-pox; and in 1796, in every 1000 deaths from all causes 184 were from small-pox. In Cheshire, in 1775, in a population of 15,000 only 1060 persons had not suffered from small-pox. In a Hertfordshire village named Ware in a population of 2515 there were at the end of an epidemic in the year 1722 only 302 persons who had not had small-pox and the disease was looked on as so certain to come to everyone that these 302 were tabulated as "to have the small-pox." Information as to the rest of Europe is similar. Then the evidence that the disease was an affection of childhood is overwhelming; thus in Edinburgh in 1764–87 the proportion under ten years of age of the patients who died from small-pox was 993 per 1000. In 36,755 deaths at all ages in Kilmarnock, Edinburgh, Manchester, Warrington, Chester, Geneva, and The Hague 17,252 were under two years of age.

Enough has been said to recommend a book well worth reading.

LIBRARY TABLE.

Practical Physiological Chemistry (Junior and Senior Courses). By R. H. ADERS PLIMMER, D.Sc. Lond., Assistant Professor of Physiological Chemistry at and Fellow of University College, London. Pp. 55 (junior course) and pp. 83 (senior course).—These two handbooks provide a complete course of practical work in physiological chemistry. They form, in fact, a key to the tests (both qualitative and quantitative) and reactions of the substances encountered in practical physiological studies. The junior course includes the elementary analysis of organic compounds of physiological importance, the reactions and properties of alcohols and ether, aldehydes, ketones, the fatty acids, carbohydrates, amines and amides, amino-acids, the ureides, benzene and its derivatives, the proteins, colloidal solutions, blood serum, and urine. The senior course deals with the physiology and chemistry of digestion and contains more expansive chapters on subjects already dealt with in the junior course; as, for example, the chemistry of the carbohydrates, proteins, and the blood and urine. Both books will be certain to prove most valuable companions to a physiological laboratory course, the directions given are clear, the subject matter and the tests described are in a line with recent advance, while we have found no test worthy of that name missing. These handbooks are clearly the logical outcome of an extensive teaching experience and of a knowledge of the real requirements of a practical physiological course.

Clean Water and How to Get It. By ALLEN HAZEN. First edition. London: Chapman and Hall, Limited. New York: John Wiley and Sons. 1907. Pp. 178. Price 6*s.* 6*d.* net.—This excellent and instructive little volume is dedicated to the Brisbane board of waterworks, "in whose service was made the voyage on which these pages were written." The preface is dated March 11th, 1907, s.s. *Aorangi*, Pacific Ocean. The author may be heartily congratulated on the use that he made of the time which otherwise is liable to hang heavily during the days and nights occupied by a long sea-passage. The details of the practical processes involved in the "cleaning" of water for drinking purposes do not form as a rule part of the knowledge possessed by average individuals, whilst it is certain that many of our municipal rulers, including those who to some extent are responsible for the administration of public health affairs, know nothing of the ways and means by which natural water-supplies are reduced to a state fit for human consumption. A visit to the works is calculated, of course, to give considerable insight into the water engineer's methods but the underlying principles which guide him may remain unexplained. This is the gap which this book so admirably fills. We have read the chapters with the greatest interest and especially those dealing with water-supplies from rivers, the sanitary aspects of turbidity and colour, ground water-supplies, the presence of iron in them, filtration and purification, the action of water on iron pipes, storage, filtration, purification, and so on. The excellent illustrations add very materially to the interest of the text. The descriptions are based mainly on American methods and on American installations. It would be a decided gain to the community on this side of the Atlantic if some water engineer in this country would provide our councils, health authorities, analysts, and others with a similarly lucid and instructive account of English methods and with details of the machinery used in this country for purifying our water-supplies.

Nature's Hygiene and Sanitary Chemistry. By C. T. KINGZETT, F.I.C., F.C.S. Fifth edition. London: Baillière, Tindall, and Cox. 1907. Pp. 527. Price 7*s.* 6*d.*—Mr. Kingzett's name is more widely known perhaps in connexion with his interesting studies of the action of oxygen on the essential oils than with other fields of research which he has also explored. He showed that the absorption of oxygen by turpentine was due to the formation of camphoric peroxide, a substance which in contact with water yields peroxide of hydrogen. Sanitas was eventually prepared on these lines, its disinfecting action depending chiefly, though perhaps not entirely, upon its power as an oxidising agent. It may be mentioned that hydrogen peroxide is being very largely employed in hospital practice in France. In the book before us it is but natural to find the author devoting a considerable portion of his book to the history, action, and uses of this compound. There are, however, many chapters devoted to other subjects which are approached mainly from the hygienic point of view. The chemistry of the atmosphere, the purification of water-supplies, the disposal and treatment of sewage, bacteriology, and foods may be quoted as examples. He is bold enough, though not a medical man, to discuss theories of disease, phagocytosis, immunity, the origin of life, the chief infectious diseases, and so forth. We cannot identify his opinions on medical matters always with our own but he gives, on the whole, a correct and an intelligent presentation of facts. He writes more authoritatively as a chemist but seems occasionally inclined to speak slightingly of bacteriological methods, especially in their application to the determination of the germicidal value of disinfectant preparations. We quite appreciate his observations as to the value of disinfectants in directions other than that of killing organisms. Preparations containing phenol homologues or mercuric chloride for example, though efficient germicides, are obviously of no value as deodorants, while they are poisonous and often corrosive. In disease, however, we are concerned chiefly with the germicidal efficiency of a given preparation. Methods for determining this efficiency may be defective in some respects but they are at least valuable in giving

relative results especially when the mode of testing is carried out on uniform lines. As bacteriological studies advance these methods will no doubt be made to represent as nearly as possible the conditions obtaining in practice. The author writes clearly and has succeeded in this volume in collecting together some quite interesting materials of more or less sanitary interest.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—An interesting address by Professor John Chiene entitled "Looking Back: 1907–1860" is published in the November number of this magazine and contains much entertainment and instruction for the reader. Mr. G. A. Berry writes on Iridectomy for Glaucoma and concludes that the operation should be done as soon as there is proof of the existence of the disease and that the amount of iris removed need not be so large as was originally recommended by von Graefe. Mr. A. Logan Turner contributes the first instalment of an article on Mucocele of the Accessory Nasal Cavities and Mr. H. Alexis Thomson narrates the disappointing after-histories of two cases of Interscapulo-thoracic Amputation for Sarcoma.

The Scottish Medical and Surgical Journal.—In the November issue of this journal Dr. C. C. Easterbrook writes in commendation of the Sanatorium Treatment of Active Insanity, the patients being kept in bed in the open air and thus treated by rest rather than by exercise, as is more usual. The results are satisfactory in diminishing excitement and improving the general health. Dr. J. Nigel Stark records four interesting cases of Extra-uterine Gestation, one in which the fœtus survived to full term, one of twin pregnancy, intra- and extra-uterine simultaneously, one in which there were repeated extra-uterine pregnancies, and one of early rupture of the Fallopian tube. Dr. A. Dingwall Fordyce continues his studies on the Feeding of Infants, and Dr. Carstairs C. Douglas continues an abstract of a paper on the Care of the Health of School Children and its Relation to the Prosperity of the State.

St. Mary's Hospital Gazette.—The issue of Nov. 6th contains the address delivered to the students of the hospital by Professor W. Osler at the opening of the current session. It is good reading, as are all his utterances, containing the powder of good advice well disguised by literary artifice and rendered palatable by fragments of historical allusion. Incidentally he breaks a lance with Sir A. E. Wright in favour of established medical methods. Mr. Edmund Owen narrates an anecdote tending to show that Palmer, the Rugeley murderer, passed one of his medical examinations by the kind offices of a friend who personated him for the occasion.

Guy's Hospital Gazette —The principal medical contribution to the issue of this magazine of Nov. 2nd is a clinical lecture by Mr. Fagge on the Treatment of Femoral Hernia; strangulation and the radical cure of the condition are dealt with. In lighter vein is a sketch entitled "In a Bishop's Library," which is well written but leaves the reader in doubt at the end as to what "Flagani's disease" may be. The writer remains anonymous.

St. George's Hospital Gazette.—The *pièce de résistance* of the October issue is the address delivered by Dr. W. Ewart at the opening of the medical session. This appeared in our own columns on Oct. 5th and has also been circulated as a separate pamphlet and thus commended to the attention of the profession. It deals with many matters but especially brings the needs of hygienic medicine to the attention of the State and advocates a reorganisation of the profession by raising the standard of the preliminary examination and by the adoption of a single portal of entrance.

St. Bartholomew's Hospital Journal.—Among the contents of the November number we notice first an address delivered by Dr. F. W. Andrewes entitled, "Medicine and Super-Medicine," if only for the modesty displayed by the writer in claiming the latter title for his own department—pathology. Dr. F. H. Champneys contributes the first instalment of a paper on Midwives in England and their Relation to the Medical Profession, showing in this part how the alternative recently lay between legislative control of midwives and their total abolition by law, the latter being obviously impracticable. In view of the difficulties which have arisen in applying the Act of Parliament this review of the subject is very opportune. Mr. W. Douglas Harmer briefly records some cases of malignant disease of the larynx and some "Notes on Clinical Pathology" are devoted to the subject of the cerebro-spinal fluid.

The Journal of Anatomy and Physiology. Anatomical Part. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S.; A. MACALISTER, F.R.S.; D. J. CUNNINGHAM, F.R.S.; ARTHUR THOMSON, F.R.C.S. Eng.; and ARTHUR KEITH, M.D.Aberd. Vol. XLIII. Fourth Series. Vol. I. October, 1907. London: Charles Griffin and Co. Annual subscription, 21*s.*—1. The first article in this part is an account of the Structures concerned in the Production of the Jugular Pulse, by Arthur Keith, M.D.Aberd. Dr. Keith gives diagrams showing the position of the jugular vein in respect to the clavicle and of the jugular valves. He also gives tracings of the jugular pulse and describes the venous cistern from which the heart is filled, the larger portion of which lies within the abdominal cavity and has a capacity of about 400 cubic centimetres and the smaller portion in the thoracic cavity with a capacity of 30 cubic centimetres. The former or larger portion is subject to compression by the abdominal muscles. He finds that two systems of musculature exist in the heart—one circular in arrangement and expulsive in action, the other longitudinal and antagonistic in action in the auricles and ventricles respectively. The longitudinal musculature acts from three fulcra—the apex of the heart, the venous mesocardium, and the arterial mesocardium. When the auricles become greatly dilated the antagonistic action between their longitudinal musculature and that of the ventricles is lost and as a consequence the characters of the jugular pulse are altered. The article is illustrated by several good explanatory drawings. 2. The same author describes a method of indicating the position of the diaphragm and estimating the degree of visceroptosis. 3. On the Form of the Cæcum, by F. G. Parsons, F.R.C.S. Eng., illustrated by 12 diagrams. 4. The Microscopical Anatomy of the Genital Tract in the Female Rat-Kangaroo, by D. Berry Hart, M.D. Edin., with eight figures in the text. 5. On the Rôle of the Developing Epidermis in forming Sheaths and Lumina to Organs, illustrated specially in the Development of the Prepuce and Urethra, by D. Berry Hart, M.D.Edin., with five figures in the text. 6 The Presence of a False Acetabulum in a Species of Bandicoot, by Professor Bridge, with two figures in the text. 7. The Relationship between the Internal Structure of the Upper Part of the Femur and Fractures through the Base of the Neck of the Femur, by Ralph Thomson, Ch.M. Vict., F.R.C.S., Demonstrator of Anatomy, Guy's Hospital, with seven figures in the text. 8. On the Brains of Aboriginal Natives of Australia in the Anatomy School, University of Cambridge, by W. L. H. Duckworth, M.D. Cantab., Sc.D., with eight figures in the text. 9. Anomalies in the Supra-inial portion of the Occipital Bone, resulting from Irregularities of its Ossification, with Consequent Variations of the Interparietal Bone, by David Hepburn, M D Edin, with five figures in the text. 10. A Note on the Crura of the Diaphragm and the Muscle of Treitz, by A exander Low, M.B. Aberd. The muscle of Treitz is otherwise named the musculus suspensorius duodeni. Dr. Low from an examination of 17 male and eight female bodies, and the bodies of five full-term fœtuses found that, in opposition to the statement in text-books, in no case did the left crus send a fasciculus over to bound the right margin of the œsophageal opening, but in every case the right crus gave off

such a fasciculus. A small fasciculus did in four cases pass from the left crus but was never continued upwards to bound the œsophageal opening. The muscle of Treitz was given off from the right crus in close relation with the cœliac axis under the superior mesenteric artery and pancreas to be attached to the upper border and posterior aspect of the duodenum. 11. On the Real Nature of the So-called Pelvic Fascia, by Douglas E. Derry, M.B. Edin., with three figures in the text. 12. Pelvic Muscles and Fasciæ, by Douglas E. Derry, M.B. Edin., with two figures in the text. 13. The Fascia of the Pelvis, by John Cameron, M.D. Edin., with ten figures in the text. 14. The Evolution of Man's Teeth, founded upon a study of the teeth of the Australian Aboriginal, by W. Ramsay Smith, D.Sc., with one figure in the text. Lastly, a Report (17th) on Recent Teratological Literature, by William Wright, M.D. Glasg.

Man.—In the November number the Rev. J. Roscoe gives many details of the religious system and social usages of the Baganda in East Africa; the home of their principal gods was on one of the islands of Lake Victoria. When a child is born they believe that the after-birth is a second child and that it has a ghost which needs to be retained in connexion with the living child in order to keep him or her healthy. For this purpose the piece of umbilical cord attached to the living child is carefully preserved after it falls off.

Caledonian Medical Journal.—The annual meeting of the Caledonian Medical Society was this year held at Bradford in Yorkshire and the opening article of the October number of the *Caledonian Medical Journal* is the presidential address delivered on that occasion by Dr. Andrew Little. Dr. Little took for his subject the Life and Work of the late Dr. John Henry Bell of Bradford who is well known by his discovery that woolsorters' disease was due to infection with the bacillus of anthrax. At the meeting it was mentioned that the society had 240 ordinary and 16 honorary members.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

THERMOGÈNE.

(THE THERMOGÈNE CO., HAYWARDS HEATH, SUSSEX.)

Thermogène consists of an absorbent wool impregnated with a substance well known to act as a stimulant and counter irritant. The application of thermogène to the skin provokes counter irritation. On exhaustion with ether the active agent is dissolved out and on the evaporation of the ether a resinous residue remains having a pungent and irritating odour. The intensity of the action of thermogène may be varied at will by modifying the method of its application. The mildest application is obtained when it is covered with gauze, next it may be used dry, and finally wet. Its action is intensified still further by fomenting the affected part before applying the moistened wool. Thermogène provides both a convenient and cleanly method for external use for relieving pain and reducing inflammation.

ELIXIR COMBRETUM.

(HAROLD E. MATTHEWS, THE MALL PHARMACY, CLIFTON, BRISTOL.)

This is a galenical preparation of the so-called anti-opium plant *combretum sundaicum*. It is a dark-brown fluid containing besides the principles of the plant glycerine and flavouring agents. The discovery of the properties of the plant is described by Mr. L. Wray, Director of Museums of the Federated Malay States. It appears that a party of Chinese wood-cutters in the jungle having run out of tea tried as a substitute the leaves of *combretum sundaicum*. When the raw leaves were employed the resulting beverage caused intestinal disturbance, but it was found that if the leaves were previously roasted a fair substitute for tea was obtained and no ill-effects followed from taking it. Opium dross, or the residue left in the bowl of the pipe after smoking opium, was added to some of the beverage and the men continued to drink this mixture in place of tea for a week or more. They then found that they had lost all desire for opium smoking. This fact has suggested the use of the drug in order to destroy the opium habit. We found on examination that the preparation yielded 27·73 per cent. of solid matters and 0·45 per cent. of mineral matter. The fluid contained tannin and glycerine. It is incompatible, we found, with solutions of alkaloids. Thus on adding some of the preparation to a solution of morphine hydrochlorate a precipitate eventually separated. A similar effect was obtained when a few drops of the preparation were added to a solution of sulphate of quinine. The precipitate was found to be insoluble in acids but the solution readily cleared up in alkali.

CHOLELITH PILL.

(PARKE, DAVIS, AND CO., BEAK-STREET, REGENT-STREET, LONDON, W.)

The formula of this pill is designed for the treatment of bile stasis. It represents a combination of drugs which is said to have a marked power of increasing the amount of hepatic secretion and of promoting a due proportion of biliary acid salts wherewith to dissolve gall concretions or, at least, to diminish their size so as to encourage their natural expulsion. The formula is as follows: Acid sodium oleate, 1½ grains; sodium salicylate (prepared from natural salicylic acid), 1½ grains; phenolphthaleine, ⅓rd grain; and menthol, $\frac{1}{10}$th grain. The pills are chocolate-coated.

CARBONIC ACID BATHS.

(THE HYGIENIC CO., LIMITED, 26, SOUTHWARK BRIDGE-ROAD, LONDON, S.E.)

The constituents of the "baths" consist, according to our analysis, of (1) bicarbonate of sodium and (2) formic acid. The idea of using formic acid for liberating the carbonic acid gas from the bicarbonate appears to be based upon the fact that the acids of the peat baths are in kind organic and not inorganic. The bicarbonate is contained in a cloth bag fastened at the neck with thread. The *modus operandi* is as follows. The contents of the bottle (formic acid) are first poured into the water and a uniform distribution is made by stirring thoroughly. On getting into the water the bather is instructed to squeeze the cushions containing the carbonate under the water with a gradual pressure so as to maintain a continuous evolution of the gas. We find that by following this direction the gas is generated on the surface of the bag in the form of very minute globules, a condition which insures the complete saturation of the water with the gas. On immersion the patient's skin is covered with myriads of minute globules of gas, the effect resembling that obtained in the Nauheim baths. Whether the therapeutic effects are the same can only be decided by repeated clinical trials. One advantage of using these materials, and especially formic acid, is that it is practically without corrosive effect upon the materials or fittings of the bath.

BROMURAL.

(KNOLL AND CO., 8, HARP-LANE, LONDON, E.C.)

Bromural is an interesting compound obtained by combining urea with a bromine valerianyl group. It is a clean white crystalline powder easily soluble in hot but not in cold water. It does not yield bromine when treated with the ordinary oxidising agents, and its sedative and hypnotic action is referred not to the presence of bromine, for the latter does not become split off from it in the organism, but to the iso-propyl group contained in the valeric acid.

Chemically it is monobromisovalerianyl-urea. On fusing bromural with soda we found that the bromine is converted into sodium bromide and the presence of the element can be recognised in this way. Bromural appears to be useful in the milder forms of disturbance of the sleep function, especially as it is stated to be without any unpleasant effects on the stomach, intestinal tract, central nervous system, or the circulation.

LACTOWINE.

(THE LACTOWINE CO., FALKLAND, BATH.)

We have analysed this preparation and the results were as follows: alcohol, by volume, 7·32; extractives, 27·90; sugar, calculated as glucose, 22·00 per cent.; and mineral matter, 0·045 per cent. The acidity, calculated as lactic acid, amounted to 0·63 per cent. Presumably this is fermented milk freed from curd or its protein constituents. It is an unattractive preparation; it is turbid and its taste is mawkish and unpleasant.

ARDATH SPECIAL SMOKING MIXTURE.

(ARDATH TOBACCO CO., 43, 45, 47, 49, 51, WORSHIP-STREET, LONDON, E.C.)

This is a coarse-cut pipe tobacco in which more than one kind of tobacco is blended. It is easy to recognise, for example, the presence of pure light Virginia leaf blended with Latakia and other growths. The result is a mixed tobacco which combines certain attractive qualities. It yields a smoke of agreeable flavour, cool, and free from irritating properties. Latakia lends "substance" to American tobacco, besides contributing its peculiar flavour which just now is popular. The tobacco contains no objectionable ingredients.

TUBORG IMPERIAL STOUT.

(THE TUBORG LAGER BEER CO., 46, 48, AND 50, BERMONDSEY-STREET, LONDON, S.E.)

The analysis of this beer was as follows: alcohol, by volume, 6·55 per cent.; extractives, 9·77 per cent.; mineral matter, 0·35 per cent.; volatile acidity, reckoned as acetic acid, 0·042 per cent.; and fixed acidity, reckoned as lactic acid, 0·315 per cent. The feature of this analysis is the large proportion of malt extractives which this beer contains. The beer represents, in fact, the nourishing qualities of a good malt extract. The beer was in quite sound condition and had a rich malty flavour. It is satisfactory to report that no objectionable preservatives were found.

New Inventions.

A FACE SCREEN TO BE WORN DURING OPERATIONS.

THE adoption of some precautionary measures in order to prevent infection of the operation area by the breath of those performing and assisting at an aseptic case is now very widely admitted to be at least advisable. To a certain extent the surgeon has been alive to the danger arising from this source for many years, and the maintenance of silence during operations has been insisted on by many surgeons for some time past. We find this emphasised by Dudgeon and Sargent in a paper last year on the Bacteriology of Aseptic Wounds, in which the methods in use at St. Thomas's Hospital are described. Recently, however, there has been a growing feeling that something more than abstaining from unnecessary conversation was required in order to insure safety, and the use of some sterilised or antiseptic mask with or without a cap is now very general. The wearing of a cap during operations must be admitted to be a wise precaution and is not irksome, but the general adoption of a face screen is probably delayed by the slight unavoidable discomfort involved in wearing it. Some of the combined screens and caps are certainly uncomfortable, very warm for the operator, and, if the material be thin, the efficiency of the screen is open to doubt. The best known are probably those used by Mr. A. H. Burgess and Dr. V. Bonney. In my opinion it is much safer and more comfortable to use a thick screen not attached to the cap. If this is to be cool it must be open at the sides and must hang loosely. Such conditions are admirably fulfilled by hanging a length of gauze from a modified spectacle frame, and under my direction Messrs. Thomas Armstrong and Brother, Deansgate, Manchester, have made an appliance which in every way has given complete satisfaction. The accompanying illustrations will give

FIG. 1.

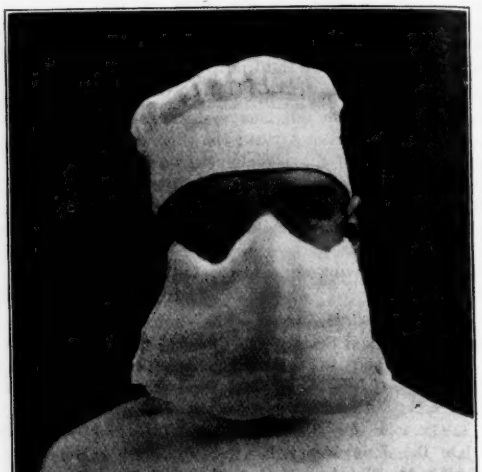
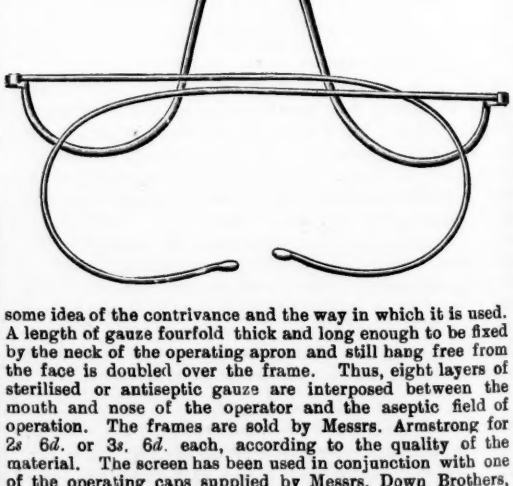


FIG. 2.



some idea of the contrivance and the way in which it is used. A length of gauze fourfold thick and long enough to be fixed by the neck of the operating apron and still hang free from the face is doubled over the frame. Thus, eight layers of sterilised or antiseptic gauze are interposed between the mouth and nose of the operator and the aseptic field of operation. The frames are sold by Messrs. Armstrong for 2*s*. 6*d*. or 3*s*. 6*d*. each, according to the quality of the material. The screen has been used in conjunction with one of the operating caps supplied by Messrs. Down Brothers, and the adoption of this method will, I think, result in the maximum of efficiency with the minimum of discomfort.

A. E. JOHNSON, M.B., Ch.B. Vict., F R C.S. Eng.,
Late Surgical Registrar, Royal Infirmary, Manchester.
Fallowfield, Manchester.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 30, 1907.

The Board of Education and the Medical Inspection of School Children.

THE memorandum, an abstract of which appears at p. 1555, recently issued by the Board of Education is on the whole a statesmanlike and elastic document which should be well received by local education authorities throughout the country. But it decides in a very determined manner a question upon which there must, for a time at least, remain two opinions—viz., whether the inspection should be placed completely under the jurisdiction of the sanitary authorities or not. To many it will seem, perhaps, the chief administrative merit of the scheme that use will be made of existing sanitary organisation and that consequently local authorities are not being asked to create machinery *ad hoc*. The proposal should appeal not only to the economically minded but also to those who desire to see a further development of public health organisation throughout the country. The actual administrative officer is to be the medical officer of health. Upon him will devolve local organisation and the employment of such assistants as he deems necessary and as he can persuade the local education authorities to employ. In taking this view the Board of Education has done something towards that great consolidation of the public health services to which we are all looking forward. It is recognised and laid down in no uncertain language that the control of the medical inspection of school children is, generally speaking, not to be under a special officer appointed for the purpose but that even as the medical officer of health controls, but does not always administer in detailed fashion, the sanitary condition of his district, so shall he supervise the medical inspection of school children. As the memorandum before us expresses it—

> It is unnecessary to emphasise the objections to a dual jurisdiction in such matters as the sanitary control of school premises and the notification and prevention of the spread of infectious diseases in which the medical officer of health and school medical officer necessarily and obviously overlap. If they are to be effectively carried out the interests and activities of the school medical officer must extend over the whole external environment of the child. School hygiene cannot be divorced from home hygiene, and this in turn is intimately bound up with the hygienic conditions of the community.

In the Board's view the executive officer in county areas should be the county medical officer of health and where no such officer as yet exists the county council should appoint one. The actual execution of the work should, the Board concludes, be deputed wholly or in part to suitable medical colleagues or assistants (men or women). Similarly in county boroughs the medical officer of health should be responsible for the work unless there is already a specially appointed officer, in which case, provided the supervision of the medical officer of health is secured, the existing arrangements need not be disturbed. In non-county boroughs and in urban districts generally similar provision will probably be made eventually but here some combination of districts may be found desirable. With reference to actual inspecting officers the Board suggests that in the counties they should either be local medical officers of health holding office within the county or registered medical practitioners specially appointed for the purpose. As regards this latter point, it may be noted that the local medical officers of health in counties will as a rule be also general medical practitioners. The Board lays stress upon the importance of selecting persons of suitable qualifications and experience, and it is suggested that preference should be given to medical men and women who hold the diploma of public health, have had definite experience of school hygiene, and have enjoyed special opportunities for the study of diseases in children. The Board is, however, also satisfied as to the absolute necessity of lay help in the shape of the teacher, the school nurse, and the parents or guardians of the child. Concerning the parents the memorandum aptly observes that "the increased work undertaken by the State for the individual will mean that the parents have not to do less for themselves but more. It is in the home, in fact, that both the seed and the fruit of public health are to be found." In order that the results desired may be secured the Board has decided that *not less than* three inspections during the school life of the child will be necessary and it suggests that the first shall take place on or shortly after admission to the school, the second at about the age of seven years, and the last at about ten years of age. A medical inspection just prior to leaving is also regarded as of importance and it is thought that sometimes this might be substituted for the inspection at ten years of age. By way, too, of encouraging the parents to take an intelligent interest in the health and physical welfare of the child it is suggested that one of or both the parents should be present at the first inspection.

Although the Board recognises that the subject of specific medical treatment will require subsequent consideration in the light of the results of inspection, it is not difficult to determine the undercurrent of its thoughts from its observations on ringworm. Offering itself the alternatives of neglecting the disease altogether, of excluding from school those who suffer from it, or of supervising or carrying out some method of "amelioration," it has not much difficulty in accepting the last alternative, and its attitude is practically identical as regards verminous heads and general uncleanliness. No reasonable person could take exception to these specific conclusions but it will be necessary for the medical profession to watch developments carefully. There is perhaps in this memorandum a little tendency unconsciously to assume that although the general medical practitioner is the proper person to watch over the destinies of the children of the lower middle classes whose self-respect precludes them from the acceptance of charity, the lower classes and the relatively unfit, who pocket their pride and contribute so much to degeneration, are to have the services of highly qualified experts, and we think that

the Board of Education will do well in its administration in the near future to remove this impression.

Generally speaking, we regard this memorandum as a well-conceived pronouncement which should in practice do more for the health of the children, and subsequently for that of the adult population, than any single step which has been taken for very many years. But it would be idle to suggest that the memorandum will give complete satisfaction. The placing of the work of medical inspection under the direct supervision of the medical officer of health entirely sets aside the discretion of the education authority in the matter of appointments. Doubtless the education and sanitary authorities would generally choose the same individual, whichever had the responsibility of selection, and all who know the difficulties which arise in civil no less than military life through multiplication of different forms of control will welcome a practical form of coöperation between the education and sanitary authorities. But is there not a fear lest the scientific study of the health of children should go to the wall under a cast-iron principle that the medical officer of health, whether he has or has not special claims, should always be the medical inspector of the schools of his district.

Clifford v. Timms in the House of Lords.

COMMENT was made at some length in THE LANCET on Feb. 9th of this year and again on June 22nd upon the judgment delivered by Mr. Justice WARRINGTON in this case and in others involving similar questions of law and fact and upon the not unexpected reversal of his decisions by the Court of Appeal. It will be remembered that Mr. Justice WARRINGTON had before him a clause incorporated in certain deeds of partnership entered into by dentists which provided for the termination of the partnership by notice if either partner should be "guilty of professional misconduct or of any act calculated to bring discredit upon or injure the other partner or the partnership business." This clause his lordship was asked to apply and to say that notice had been rightly given under it upon evidence that the brothers named CLIFFORD, members of the partnerships in question, had been found by the General Medical Council to have been guilty of conduct infamous or disgraceful in a professional respect and had had their names struck off the Dentists Register.[1] Mr. Justice WARRINGTON heard considerable legal argument as to the admissibility of the report of the Dental Committee of the General Medical Council as evidence upon the issues raised and eventually the report was admitted. His lordship, however, found himself able to draw a fine distinction between "professional misconduct" and "conduct infamous and disgraceful in a professional respect," a distinction upon which we commented at the time to the effect that his view was not likely to remain long uncontested and, as a matter of fact, the Court of Appeal was unable to take his view.

The Court of Appeal, in delivering judgment, discussed the distinctions thus drawn and the question of evidence at some length before disposing of them, and the House of Lords has now considered that no further comment upon them was needed. The Lord Chancellor and those with him preferred to emphasise their dissent from the conclusions arrived at by Mr. Justice WARRINGTON after considering facts which, however they were proved, could hardly be regarded as being in dispute before him. The Lord Chancellor in giving judgment said that "he did not think it was the least necessary to enter into the legal question, interesting as it might be, which was so much discussed in the Court of Appeal. It seemed to him to be a matter of indifference whether the order made by the General Medical Council should be admitted in evidence or should be excluded. The question depended on the advertisements. The form of the advertisements which had been sanctioned by Mr. CLIFFORD certainly, in the circumstances, amounted to professional misconduct." As to the question of the advertisements which formed part of the subject of complaint against Messrs. CLIFFORD, Mr. Justice WARRINGTON had made observations to which we called attention at the time, for he said that "advertising was admittedly allowed in the profession and he failed to see any professional misconduct" in the publication of the pamphlets before him. The CLIFFORDS in advertising extensively an "American Dental Institute, Limited," which they had joined in forming, had drawn unjustifiable comparisons between English and American dentistry, and in an article inserted at the cost of £100 in the *Review of Reviews* had, among other things, dwelt upon the dangers of "close physical intimacy for an hour at a time" between the dentist and his patient. As to this the document in question went on to say, "Although in 100 cases no mischief ensues in the hundred and first it may be otherwise. It has been otherwise, as everyone knows who has any acquaintance with the profession," and it proceeded to describe how the alleged evil arising from physical intimacy was obviated in the case of the American Dental Institute, Limited, by the presence of a "trained maid."

In the House of Lords, to which appeal was made by Messrs. CLIFFORD from the judgment delivered by the Court of Appeal, it is satisfactory to note that the counsel appearing for the respondents, the partners who gave notice to terminate their partnerships, were not called upon to argue on behalf of their clients. The highest legal authority may therefore be said to have disposed without any hesitation of the shades of meaning introduced by Mr. Justice WARRINGTON into tolerably plain English phrases and obviously foreign to the intentions of those who framed them; and also in no less unequivocal manner to have set the stamp of its approval upon the enforcement of a high code of ethics in the medical profession, publicly by its governing body and privately between its individual members.

[1] See THE LANCET, June 2nd, 1906, p. 1557.

The Royal College of Surgeons of England: Annual Meeting.

THE chief discussion at the annual meetings of the Fellows and Members of the Royal College of Surgeons of England has always had to do with the vexed question of the representation of the Members on the Council. In this respect the recent annual meeting (which is reported at p. 1560 of our present issue) differed not at all from

those preceding it. With little more than verbal differences the usual motion was brought forward that it was desirable that the Members should be granted direct representation on the Council of the College. With many of the same arguments the appeal was made. Year after year the theatre of the College has resounded to the eloquence of the Members; year after year the resolutions have been carried without opposition or by enormous majorities, but all in vain. The Council remains unconvinced. The resolutions of the annual meeting are brought up at the next meeting of the Council and they are put aside with some phrase, such as that they have been "laid before the Council." At one time there was a very definite section of the Council in favour of the representation of the Members but the opportunity passed and nothing effective was done. Since that day, however, several years have gone by and now at last a new factor in the struggle has appeared. A few months ago a deputation of Members of the College waited on the Lord President of the Privy Council and put forward their views as to the desirability of an alteration in the charter of the College by which Members may be granted representation on the Council. Lord CREWE received the deputation sympathetically and expressed his hope that a way might be found by which the aspirations of the Members might be fulfilled. The memorial of the Members was sent by Lord CREWE to the Council of the College asking for any observations on it which the Council might feel disposed to make. In these observations the Council answered, or attempted to answer, the arguments contained in the memorial of the Members, and the Council also sent a deputation to the Lord President of the Privy Council and expressed its own views. All these opinions are set forth in order in the annual report of the Council and they have given both pleasure and pain to the Members. The Members rejoice in that they have been able to obtain in black and white the arguments of their opponents, for never before have their arguments been answered by arguments but their appeals for representation have been met by blank refusals. Arguments can be met by counter-arguments, while a mere refusal admits of but little effective reply. The Members, however, have also been annoyed. Some of the arguments brought forward by the Council are hardly complimentary to the knowledge and intelligence of the Members, and some have been misunderstood. All these arguments and counter-arguments, statements and counter-statements, provided ample material for a lively discussion at the annual meeting. We are, as we have always been, strongly in favour of the granting of the franchise to the Members, both from the moral justice of their claims and from the expediency of conciliating the source of the greater part of the income of the College. In spite of our natural bias in favour of the claims of the Members we cannot shut our eyes to the fact that some of the methods employed by the Members are ill calculated to help forward their hopes. No effort should be spared to show the Council and the Fellows that the Members are capable of considering the questions in dispute in a dignified and philosophical manner; that they are able to discuss matters of the highest importance with calmness and judgment. Yet what do we find? On many occasions in these later years we have heard Members speaking at the annual meetings employ language which may have been effective in argument half a century ago but which within recent years is rarely heard in the discussions of academical bodies. Even this was bad enough, yet it has been reserved for the meeting held last week for a Member to accuse the President of the College of uttering an untruth and of knowing that it was an untruth. Such an action cannot be palliated. To modify somewhat the language of TALLEYRAND, "It was worse than bad taste, it was a blunder." For such conduct can only serve to strengthen the opposition and it must even tend to alienate those members of the Council and those Fellows who look with favour on the aspirations of the Members. We beg, we implore all those Members who sincerely wish for the extension of the franchise to discountenance these methods. They can but lead to disaster. We noticed that many Members had great hopes of the intervention of the present Government in the struggle between the Members and the Council. May their hopes be fulfilled. Yet we fear that in the present times of storm and stress in the political world little time will be found for the internal commotions of a scientific body. No votes in Parliament will be affected by the neglect and while the fate of the House of Lords is, or is supposed to be, trembling in the balance what politician will have time or will care to think of the disabilities of the Members of the College? We fear that salvation does not come thence but that the Members will before long obtain some measure of representation we cannot doubt and to us the main hope of the Members lies in the Fellows of the College. Convince the Fellows that a few Members on the Council will cause no revolution in the College, that the good work done in the past will be continued in the future, and when this is done the opposition of the Council will spontaneously disappear. We are hopeful that before many years have passed the Members will be granted some share in the management of their own College.

Annotations.

"Ne quid nimis."

THE SCIENCE OF PRESCRIBING DIET.

ATTEMPTS to administer foods in a scientific manner so that they are brought to fulfil exactly the requirements of a particular patient have at various times been made but hitherto the methods of computation have entailed no small amount of trouble, while the accuracy of the calculation was questionable. Of the methods so far used for computing the proportions of proteins, fats, and carbohydrates two have been adopted—one consisting in using the tables of percentages by weight of proteins, fats, and carbohydrates, and the other in employing a table which gives the number of calories in the form of proteins, fats, and carbohydrates per ounce of each food. Shortly, the first is known as the method of weight per cent. and the second as the method of calories per ounce. A further method recently worked out by Professor Irving Fisher of Yale University differs from either of these and is called by him the method of calories per cent. This takes as its starting point not a unit of weight but a unit of food value, called a "standard portion," of each kind of food. The "standard portion" is defined as that amount of food which is equivalent to 100 calories. It is accordingly

suggested that foods should be served in "standard portions" or simple multiples thereof. The amount of milk served, for example, should be that which represents 100 calories—4·9 fluid ounces. Of the 100 calories which this quantity of milk contains 19 will be in the form of protein, 52 in fat, and 29 in carbohydrates. By this arrangement the dietetic values of various foods are presented in a fresh light and a true comparison may be made between them as to the relative amounts of protein, fat, and carbohydrate, a comparison which, as will appear, is more scientific than that hitherto obtained by previous methods. It is well recognised, for example, that milk is a higher protein food than, say, nuts, yet if milk and nuts are compared on the basis of the method of "weight per cent." it will be found that the nuts appear three times as rich in protein, milk containing 3·3 per cent. and the nuts 11 per cent. If, however, they are compared on the basis of "calories per cent." it will be found that while milk contains 19 calories of protein out of each 100 of total calories, nuts contain only 6, milk therefore showing on this basis three times as much protein as nuts. This may appear paradoxical, but the fact that nuts are higher in protein per ounce but lower in protein per 100 calories is due to the circumstance, of course, that nuts are a much more concentrated food than milk, for whereas 100 calories are represented in 4·9 ounces of milk the same number of calories is represented in only half an ounce of nuts. In order to carry out the "calories per cent." method in practice it is necessary to have a table giving the weight constituting a "standard portion"—the amount yielding 100 calories—and the calories of protein, fat, and carbohydrate in this portion. A table of this kind based on the work of Atwater, Bryant, and Kellogg, has been drawn up by Professor Fisher. As he points out, the difficulty in the practical use of most tables of food values is that they cannot be "visualised." He meets this difficulty by constructing a food map which consists simply of a right-angled triangle, the sides of which are divided into ten divisions, lines joining these points vertically and horizontally, in the same way as the latitudinal and longitudinal lines on a map. Any food may be represented on this map by a point, the relative distances of which from the three sides of the triangle represent the protein, fat, and carbohydrate. On this map fatty foods are located round points near the "fat corner," starchy and saccharine foods round points near the "carbohydrate corner," and foods rich in proteins round points near the protein corner, the position in each case of the point relatively to the sides of the triangle representing the proportions of the proteins, fats, and carbohydrates, and the number opposite each name representing the weight of "a standard portion." The value of a combination of foods can be obtained by combining the points representing each constituent into one point, the centre of gravity which will then represent the entire meal. The resultant which represents the value of the ration can be obtained by a mechanical diet indicator which Professor Fisher has devised. It thus becomes a simple matter to discover whether a particular diet conforms to any given standard and if this is found not to be so corrections may be made in order to preserve the physiological balance. A patient, to give an example, is ordered a diet presenting 2000 calories a day. By consulting the food map he may find no foods on it which fall within the prescription, some will be above and some below the figure. He will readily see, however, that foods can be so combined in regard to their calorific value as to yield as a resultant the prescribed calories. The same method may be used by the housewife who is desirous of supplying scientifically balanced meals. The idea is decidedly ingenious and the device is not patented but is open to anyone to make and to use it. The suggestion of doling out food in scientific measures and on scientific lines will not, we imagine, gain the sympathy of most vigorous men who will prefer to be guided by a normal and healthy instinct. The case of the diseased, however, is different and instinct may become perverted. Then a regimen is needed and knowledge, and the application of that knowledge, will be appealed to with advantage.

THE LIVINGSTONIA MISSION.

AN esteemed Scottish correspondent writes:—"The 'continent' so long characterised as 'dark' is rapidly qualifying for another and less sombre epithet, thanks, among other agencies, to the missionary effort so zealously and so skilfully put forth by the enterprise above named. True to the traditions of the great explorer from whom it takes its title, it combines in its leading *personnel* the training and the equipment of the medical man with the fervour and the education of the divine—a combination effectively embodied in the Portuguese Jesuits of the seventeenth century and exemplified still more conspicuously in our own day by the accomplished and devoted missionaries from the British Isles. Among these latter none have achieved better work than the emissaries of the Scottish Church, of whom Dr. James Stewart and Dr. Robert Laws are justly held in honour. From an early age these pioneers of British Imperialism, in its noblest sense, revealed the qualities and the aptitudes fitted to command success and shrank from no discipline which could make them more efficient in the undertaking of their choice. Robert Laws, according to his biographer in a lay contemporary, was born in Aberdeen in 1851, and, while destined for the ministry of the United Presbyterian Church, foresaw that his life-work lay in a far more arduous and chequered field. Fired as a boy of 14 by the personal experience and advice of Robert Moffat he resolved to dedicate himself to a similar career, and, always with its practical equipment in view, he acquired the skill, manual and other, of a cabinet-maker and builder in his father's establishment. Then he proceeded to the University and after a four years' curriculum graduated as Master of Arts. Thereafter matriculating in the medical school, he took the degrees of M.B. and C.M., and, finally, put the finishing touch to his qualifications by attending the Divinity Hall of the United Presbyterian Church. Keeping himself in readiness for his call to the African mission he was doing good service in the small-pox hospital in Glasgow when he was invited with his colleague, Dr. William Black, to begin work in East Central Africa. The two in due course arrived in Livingstonia—Dr. Black to find an untimely grave and Dr. Laws to lead the first expedition into that region equipped under the combined auspices of the Established, the Free, and the United Presbyterian Churches of Scotland. On Oct. 12th, 1875, the expeditionary party steamed into Lake Nyassa and thereupon Dr. Laws wrote: 'I may say Livingstonia is begun, tho' at present a piece of canvas stretched between two trees is all that stands for the future city of that name.' Joined by the second expedition under Dr. Stewart, the two medical men 'were soon convinced that all the beauty and strategic value of that south entrance to the lake, near which Fort Johnston now stands, could not compensate for its unhealthiness,' and so at the promontory of Bandawe, on the middle of the west shore of Lake Nyassa, Dr. Laws established his second settlement. There, frequently at imminent risk of life among the savage and mutually jealous tribes, he and Dr. Elmslie, who had joined him, succeeded in introducing the peace and the progress that are insuring the region to British government, and all the time Dr. Laws—like the Padre Massaia in the Galla country—was acquiring the native language, reducing it to writing, and translating into it the New Testament soon after published by the National Bible Society of Scotland. Six other languages were

similarly mastered and utilised with the help of others of the mission, such as Dr. Steele and Mr. Alexander Bain, and still further progress was made (in preparation for the trader and the soldier who were also of great service) by the founding of the institution which takes its name from Lord Overtoun, its promoter. In all this work Dr. Laws has been a guiding and an inspiring leader, and in recognition of his labours the United Free Church of Scotland has just elected him Moderater of its General Assembly convened for the May of next year. Well merited is the honour and well calculated to encourage the compatriots of Livingstone to reinforce an enterprise so worthy of the British genius and the British name."

THE INDIA OFFICE AND MR. W. M. HAFFKINE.

WE are glad to announce that the matters at issue between the India Office and Mr. Haffkine have been settled in a manner that is honourable to both parties. Mr. Haffkine has received a letter from the India Office saying that the Secretary of State recognises that, though the views on the matter are not unanimous, an important body of scientific opinion is favourable to him in the question of the origin of the Mulkowal disaster, and adding that the Secretary's own attitude is indicated by the offer of employment upon honourable terms. To this letter from the India Office Mr. Haffkine has replied expressing gratitude for the expressions contained in it, accepting the offer, and stating his intention of proceeding to India at the earliest date by which he can get ready the apparatus necessary for his work. The details of this sad affair have been published in our columns so fully and recently that we are sure that our readers are familiar with them. They may think that the measure of justice done to Mr. Haffkine is scant, as is unfortunately almost always the case with the defendant in a prolonged dispute—a verdict in the end can never repay him for the anxiety of the time of arraignment. Mr. Haffkine has borne his trial with the greatest dignity, and we congratulate him heartily upon the recognition which his work has received from the India Office, and upon his resolution to take up that work unaffected by the troubles that have now passed.

THE METROPOLITAN ASYLUMS BOARD AND THE STATUS OF ITS OFFICERS.

THE Metropolitan Asylums Board has recently drawn up a draft of a suggested new Order consolidating the several Orders which have from time to time been issued by the Local Government Board and the Poor Law Board in respect of the Metropolitan Asylum district. This draft, which appeared in June and which is to be submitted to the Local Government Board, cannot be said to have been prepared in a hurry, for its inception took place in January, 1900. The draft deals with an infinity of matters but the portion which has raised some discussion is that dealing with the status of officers. In 1875 the assistant medical officers were, by an Order issued in that year, classed as principal officers. A few months later, however, they were newly graded as subordinate officers. Matrons, however, were graded as superior officers, with the result that on some occasions, when an assistant medical officer was left in charge during the absence of his chief, he was officially subordinate to the matron, steward, and other principal officers, although as acting superintendent he was supposed to control them. The effect of the new Order, in the words of the memorandum dated June, 1907, "will be that at each establishment there will be only one resident principal officer (in the draft Order referred to for the most part as the officer in chief authority) who will be recognised as head of the establishment with general authority and control, subject to the regulations, over the entire staff, thereby removing doubts which now exist as to the semi-independence of certain other officers." We gather that under the new Order the matrons will be placed on the same footing as are at present the assistant medical officers; that is to say, the matron's service will be terminable at one month's notice on either side, whereas under the present Order they are entitled to three months' notice. In the absence of a medical superintendent the matron will be subordinate to the assistant medical officer who is left in charge. The new Order has given rise to much indignation among the matrons but we fail to see their grievance. No medical man would wish to interfere with the control or management of the nursing staff by the matron unless, indeed, he considered that some alteration were necessary for the benefit of his patients. The Metropolitan Asylums Board as a board has sometimes seemed to be animated by a spirit of antagonism to the medical profession and some two years ago a strong protest was made by certain assistant medical officers.[1] Should this new Order pass the Board will have done something to remove a nominal, if not a real, offence to the assistant medical officers.

SEPTICÆMIA DUE TO ANAEROBIC MICROBES IN VARIOUS INFECTIONS.

THE method of blood examination, adopted only in comparatively recent years, has shown that microbes are present in the blood in various diseases with a frequency which was unsuspected. Thus, the specific microbes of typhoid fever and of pneumonia are frequently found in the blood. At the meeting of the Société Médicale des Hôpitaux of Paris on Oct. 18th M. Garnier and M. Simon made an important contribution to the bacteriology of the blood and showed that septicæmia due to anaerobic microbes frequently occurs in various infections such as typhoid fever, catarrhal icterus, and rheumatic purpura. During the course of gangrene and fœtid suppuration and in all cases in which an infectious focus due to the development of anaerobic microbes exists the organisms may enter the circulation. The septic vibrio of Pasteur furnishes an example but it enters the circulation only in the last hours of life. The entrance of various other anaerobic microbes into the circulation has been described in recent years by French writers. The alimentary canal is a culture medium for numerous anaerobic microbes. In the normal condition they are found in the lower regions of the biliary and pancreatic ducts, as has been shown by Gilbert and Lippmann, and extend higher than the aerobic microbes but they never transgress the intestinal epithelium. It is otherwise in disease. In collaboration with Professor Roger M. Garnier has shown that in intestinal obstruction in man and the lower animals anaerobic microbes are frequently found in the blood. It therefore occurred to M. Garnier and M. Simon to investigate the question whether in the diseases in which the intestinal mucosa is damaged such germs enter the blood. They removed blood from a vein at the bend of the elbow with a sterilised Luer's syringe after carefully cleansing and sterilising the skin. As an additional precaution they burned the skin with the actual cautery at the spot where they inserted the needle. Cultures were made on gelose and bouillon. In three cases of typhoid fever blood was removed six times in all. In two of the cases anaerobic microbes developed—in one case an organism resembling the bacillus perfringens; in the other a new bacillus termed the bacillus angulosus. Cultures were made in two cases of catarrhal jaundice. In one the blood was found to be sterile; in the other an anaerobic microbe was found resembling the bacillus serpens of Veillon and Zuber. The blood of an adult suffering from purpura was found to be sterile but the blood of a child suffering from this condition yielded an anaerobic microbe resembling the bacillus nebulosus of Halle but

[1] THE LANCET, vol. ii., 1905, passim.

it could not be identified with certainty. Thus in four out of the seven cases anaerobic microbes were found in the blood. What part the microbes played in the pathogenesis of the conditions present cannot be stated. It is of interest, however, that in one of the patients suffering from typhoid fever the blood at first yielded only the typhoid bacillus, but some days later, when the state of the patient was graver and the diarrhœa was abundant, an anaerobic microbe was found. In the other case which gave a positive result the first culture yielded an anaerobic microbe and the state of the patient was graver than at a later period when the blood was found to be sterile. A relation, therefore, appears to exist between anaerobic septicæmia and the severity of typhoid fever. The cases of purpura in which a microbe was found in the blood are of interest in connexion with the modern view that purpura (a term which must be understood to be the name not of a disease but of lesions which may occur in many diseases) is often of microbial origin. In two cases of acute rheumatism the blood was found to be sterile but the patients had been treated with salicylate of sodium. M. Garnier and M. Simon think that the microbes in all cases were of intestinal origin.

MUSLIN CURTAINS AS AIR PURIFIERS.

Dr. John Brown, the medical officer of health of Bacup, has drawn attention to the usefulness of muslin curtains in altering the air of rooms from the solid particles abounding in it. The amount of solid matter removed from the air by muslin window curtains has surprised him, and it is common knowledge in the northern manufacturing towns that in dark, foggy weather they are no sooner up than they are dirty enough to come down again. As he says, they are cheap and easily washed and should be changed frequently. One condition he advocates but does not insist on is that they should not be dressed or ironed. The advocates of neatness and trimness would assent to this unwillingly. He says it would conduce to the healthiness of our homes if all air inlets had muslin filters. It is interesting, and in a sense pathetic, to see the struggle kept up in our manufacturing districts against the evil effects of the polluted air on the plants and flowers which the cottagers cherish with a devotion that cannot be felt more earnestly by those who live in places comparatively free from smoke and dust. Dr. Brown therefore advocates the use of muslin to filter the air for greenhouses, for though gaseous impurities would not be removed there would be a distinct gain by excluding the solid particles. It cannot be supposed that the air is completely filtered from even its suspended impurities by muslin, still it is an advantage that our lungs are saved from some proportion of irritating blacks and dust.

AN OLD MEDICAL YEAR-BOOK.

ONE of the oldest, if not the oldest, of medical year-books is the *Zodiacus Medico-Gallicus*, edited by Nicolas de Blegny and published at Geneva in 1680, four years earlier than the single copy of *Medicina Curiosa*, described in THE LANCET of Nov. 3rd, 1906, as being perhaps the earliest of English medical journals. In addition to the Latin work, which alone seems to be known in English medical libraries, De Blegny published a French journal which ran for two years, from 1680 to 1682, under the title *Académie des Nouvelles Découvertes en Médecine*. Of this *Académie* the *Zodiacus* is perhaps a replica and is said to have been translated by Th. Bonnet. De Blegny at the time when these publications appeared was court physician of the Queen of France and his books seem to have attracted attention for political and social rather than for medical reasons. Still, the *Zodiacus* describes a large number of remedies and cases, giving in every instance full particulars as to both patients and surgeons. One of the most curious observations in the book is De Blegny's own history of a fœtus having lain 25 years in the womb of one Margareta Puger, a barber's wife. The case occurred at Toulouse and was attested by the local magistracy. De Blegny had already published a full account of the case in 1679. As a physician this early medical journalist would seem to have been constantly immersed in intrigues and follies of various sorts which led to his imprisonment for many years. He published voluminously and died at Avignon in 1622, having apparently given up his journalistic venture in 1682.

PRECAUTIONS AGAINST FIRE IN THE LONDON HOSPITALS.

A REPORT has been furnished to H.R.H. the Prince of Wales as President of King Edward's Hospital Fund for London by Sir Eyre Shaw and Captain Wells of the Metropolitan Fire Brigade, who by his request were constituted a committee to draw up recommendations as to the best way of securing protection against fire in the various London hospitals. The report first states that any suggestions to be generally applicable must be few in number, as local conditions vary greatly in different hospitals, amongst which there is no uniformity of plan or construction; in this respect it recommends that the committee of the Fund might in future construction consider plans with special reference to safety of life in case of fire or panic. Cleanliness and freedom from dust are considered as "absolutely essential for reducing risks from fire." The body of the report ends with these words:—

> It must again be clearly stated that in many of the smaller or older hospitals no steps in the way of safety are possible except with great care and cleanliness on the part of officials, unfailing watchfulness for the first symptom of danger, however slight, and immediate notice to all concerned, both inside and outside the premises.

More detailed suggestions are made in an instructive appendix; on these we shall comment later. The recommendations in the appendix deal with the measures to be taken to stay panic and to effect the removal of patients in danger out of the zone of peril. From these recommendations the paramount duty is made obvious for the individual members of the household staffs concerned to train themselves in fire-drill, so that each can perform his or her duty almost automatically in case of need.

A NEW PLAGUE THEORY.

THE *Pioneer Mail* has given prominence recently to the theory of Mr. J. Boyd Boucher of Howrah, in regard to the spread of plague. Mr. Boucher is an analytical chemist and he states that he has ascertained that the beetle Calandra oryza, or rice weevil, is a host of the plague bacillus. The insect infests all cereals, maize, rice, pulse, and millet, but prefers soft rice, and the fact that it is most abundant during the summer might account for the prevalence of plague at that season. Rats feeding on the infected grain contract the disease and pass it on to the fleas which they harbour. When the rats die the fleas, in the absence of other warm-blooded animals, attack men. Mr. Boucher, however, suggests that although plague can certainly be conveyed in this manner the common source of infection through rice must be sought for in bazaar supplies. Sweetmeats constitute the most prolific medium through which the plague bacillus reaches human beings. These omnipresent cates are commonly prepared with the cheapest rice-flour and when stale contain enormous quantities of bacilli which under these conditions multiply with astonishing rapidity. The victims of plague, according to Mr. Boucher, are chiefly to be found among sweetmeat eaters. He claims to have studied the disease since its first appearance in India but we are without any information as to the details of his

inquiry into the life and pathology of the Calandra oryza. It is clear that on this depends the question of how far his theory is deserving of the attention of those interested in the etiology of plague.

STEAM ENGINES IN THE STREETS.

SURELY the laws in regard to the regulations of motor traffic were never intended to allow the running of engines through the streets puffing great clouds of steam into the air, terrorising the horses on all sides. If they were we think a serious concession was made. If they were not the abuse should be stopped and this source of danger checked at once. Explosions, the irritating jerks of the clutch, hooting horns, and other offensive evidences of motor traffic in the streets are bad enough, but nothing is more calculated to disturb the equanimity of the horse so much as the intermittent emission of huge volumes of visible steam (or, to be correct, vapour). Yet such engines are a familiar daily sight in the streets of London and in the country. The evil is intensified during the cold days of winter because so much more vapour is condensed. We have seen such engines as we have described tearing along the streets filling the atmosphere with clouds of steam. To add to the terror, these engines are very often attached to a string of trucks resembling a railway train. Cabmen and even omnibus men have at once to run to the horses' heads to prevent the animal from bolting as soon as they see one of these steam engines approaching. Occasionally this precaution is not adopted in time and accidents then arise with more or less serious results. We do not ask that steam as a means of road traction should be prohibited, but we do urge that when steam engines are allowed to pass through the streets they should be provided with some device which will stop the steam from escaping in great clouds from a chimney immediately in front of the engine. We have heard of condensing apparatus being successfully used to reduce the steam from the engines of underground railways and some such arrangement ought surely to be attached to the street steam engine. Steam does not pollute the air but it is a menace to the safety and lives of the public when it is evolved in such a spectacular way as easily to scare horses into backing, plunging, or bolting.

EPIDEMIC PNEUMONIA.

FROM time to time cases of pneumonia have been described occurring in the form of outbreaks in houses, in cities, or in districts. In the *Johns Hopkins Hospital Bulletin* for November Dr. Marshall Fabyan has reported a remarkable outbreak of pneumonia in a family and has exhaustively reviewed the subject of epidemic pneumonia. A coloured family consisted of father and mother and four boys and four girls of ages ranging from two to 17 years. The eldest girl lived out and seldom visited the family. The remainder lived in an old dilapidated house in an outlying district of Baltimore, isolated from other buildings. The house was small and ill ventilated and the inmates were crowded together. Within a period of ten days six of the children developed acute pneumonia. For three days before the onset in the first case the father had been ill with a "cold," hoarseness, and abdominal pain. Another child, aged five years, became ill with pain in the head and abdomen and fever several days after the onset of the last case of pneumonia. Only the mother and the daughter, who lived away from home but returned to nurse the patients, escaped illness. Five of the patients were admitted to Johns Hopkins Hospital with pneumonia and a sixth was examined at home and found to be suffering from resolving pneumonia. One case in a girl, aged 14 years, proved fatal. Pneumococci were found in her blood during life. It is interesting that in several of the cases two of the patients slept together and then the interval between the onset of the disease in the first and the second cases varied from six to nine days. Professor W. Osler has reported an instance of ten occupants of a house being attacked with pneumonia. In 1892 a serious epidemic of fever associated with pneumonia occurred in Paris and was traced by Nocard to infection with the bacillus which is the cause of psittacosis in parrots. Articles from the sick room appear to be able to transmit pneumonia. Flindt has reported a case in which the bed-coverings of a patient who died from pneumonia were taken to a house two miles away and used on the bed of a child who soon developed pneumonia. In another case a child developed pneumonia three days after the father began to repair a chair which had been used by a patient convalescing from pneumonia. In hospitals bed-to-bed infection has been observed but with ordinary precautions the danger of this is very slight. Tyson has described an outbreak in a ship's crew in which 410 men were attacked in rapid succession. Emmerich recorded an epidemic in the prison at Amberg in 1880 which lasted six months; of 161 persons attacked 40 died. The pneumococcus was isolated from the dust under the floor of the infected dormitory but was not found in the other dormitories. Disinfection put an end to the outbreak. In 1875 Blyth called attention to the contagiousness of pneumonia in certain English villages. In 1888 Ballard described an epidemic in Middlesbrough of 367 cases in a population of 40,000. He thought that the pneumonia was of septic origin and due to poisonous meat (bacon).

SIR AUGUSTUS SCOVELL.

A CORRESPONDENT points out that in our annotation announcing the recent birthday honours a reference to Sir Augustus Scovell's chairmanship of the Metropolitan Asylums Board needs a little amendment. Sir Augustus Scovell succeeded to the chairmanship, we are informed, later than 1902 and held it for not more than about four years. We certainly believed that his tenure of office had been longer. A reference to the reports, however, will show that Sir Augustus Scovell was chairman of the hospitals' committee during the 1901–02 small-pox epidemic, and we agree with our correspondent that "it is not too much to say that he was one of a small band who saved the metropolis from something approaching epidemic disaster. His services to London at this time were incalculable. He was a statesmen and administrator among a host who were the very reverse." Our correspondent, who should know, adds, "The Board was completely taken by surprise, despite medical warning, and until they were right into the epidemic were blind to its gravity."

THE BRISTOL ROYAL INFIRMARY AND THE PLURALITY OF HOSPITAL APPOINTMENTS.

AS briefly mentioned in our issue of Nov. 23rd, the differences between the honorary staff and the committee of the Bristol Royal Infirmary have now been settled, the objectionable proposal put forward by the committee having been withdrawn. The amended rules which the medical staff has now accepted are as follows. No members of the medical staff shall hold any union or club appointment or engage in pharmacy; neither shall they hold any appointments at another general hospital; the assistant physicians and assistant surgeons may hold one appointment at a special hospital; the physicians and surgeons who deal with special subjects shall practise only in that special department; and it was also decided that the physicians shall also practise medicine only and the surgeons shall practise surgery only, or in other words, neither the physicians nor the surgeons may engage in

general medical practice. These amended rules were confirmed at a meeting of the infirmary committee held on Nov. 26th. The rules have still to receive the sanction of the governors of the infirmary at a meeting to be specially convened on Dec. 5th. It is a matter of congratulation that the settlement has been arrived at, although it must be admitted that the acquiescence of the staff in agreeing not to hold any appointment at a general hospital, such as the Handel Cossham Hospital at Kingswood, near Bristol, was regretted by several of the local members of the profession.

SUPPURATIVE INFLAMMATION OF THE THYROID BODY DUE TO THE TYPHOID BACILLUS.

AN inflammation of the thyroid body may occur as a complication or as a sequela of various diseases, such as dysentery, pneumonia, influenza, scarlet fever, and typhoid fever, and from such inflammatory conditions various organisms have been isolated—streptococci, staphylococci, bacillus pyocyaneus, bacillus coli communis, bacillus typhosus, and certain special organisms described by Tavel under the names of bacillus strumitis α and β. A case of post-typhoid suppurative thyroiditis is described by M. Henri Roger of Montpellier in the *Archives Générales de Médecine* for October. The patient was a woman, aged 29 years, who suffered from a severe attack of typhoid fever, with a pyrexial period of more than four weeks, during which a severe broncho-pneumonia occurred as a complication. In the early part of convalescence the thyroid gland was found to increase slightly in size, but without any pain or inflammatory manifestations. About a fortnight later there was an acute inflammatory change in the same region, which became red and hot and painful, the swelling extending more towards the left side of the neck than the right. The pulse was increased in frequency but the temperature was not raised. A wet dressing was applied and the swelling subsided but not completely; iodide of potassium was then given internally and an ointment of the same applied to the neck. After a further interval of about three weeks the inflammatory change again became acute and a focus of suppuration occurred which was incised about eight days afterwards, a few drops of pus escaping, which were collected in a sterile tube. Healing was rapid but a small sinus remained from which a few drops of sero-pus exuded. On inquiry it was found that for about six years previously to her illness the patient had noticed some slight swelling of the thyroid body. The bacteriological examination of the pus made by M. Delanoë revealed the presence of the typhoid bacillus, which was confirmed by agglutination and inoculation tests. M. Roger has been able to find 19 other cases in the literature since the discovery of the typhoid bacillus on which a bacteriological examination has been made, and he appends to his paper an analysis of these. Of the 20 cases so collected, including his own, in 19 of them the bacillus typhosus was obtained, 15 times as the only organism and four times in association with another. In eight of the cases the nature of the organism was confirmed by the Widal agglutination reaction. It has been known for some time that the typhoid bacillus can produce suppuration apart from the presence of other pus-producing organisms and the thyroiditis occurring in association with typhoid fever is comparable to the periostitis, orchitis, and cholecystitis which occur in that disease, which are produced by the typhoid bacillus itself. In the majority of recorded cases the gland has been found to be hypertrophied before the typhoid fever and the condition is rather one of "strumitis" than thyroiditis, a distinction pointed out by German authors. None the less, a previously healthy thyroid body may be attacked. In one case it appeared as if the thyroid body was primarily affected by the organism, since the condition was preceded by nothing more than a slight gastric attack. It is important to recognise that a suppurative inflammation of the thyroid may be due to the typhoid bacillus, and a bacteriological examination should certainly be carried out in every case, since it is well known that the bacilli from such lesions may be the means of spreading the disease.

THE PHYSICIAN'S RECOMPENSE.

"THIS," writes an Italian contributor, "is not always confined to the professional fee, as has often been put on record in biographies and reminiscences, medical and non-medical. The recent death of Admiral Sir Francis Leopold McClintock recalls to my mind an incident in point. Half a century ago, on a visit to the admiral's brother, Dr. Alfred Henry McClintock, a leading consultant in gynæcology in Dublin, whose clinical teaching at the Rotunda many practitioners still remember with gratitude, I and other guests remarked on the doctor's sideboard a fine reproduction in massive silver of the *Fox*, the famous yacht purchased and fitted out by Lady Franklin for the exploring party headed by Sir Francis to trace whatever indications could be found of the ill-starred Franklin expedition. Thereupon the doctor proceeded to tell us how it was a gift of his brother and how, but for a professional incident or accident, it would not have been there for him to possess and his friends to admire. Summoned one evening from his house in Merrion-square to the country he had left word that his return would be delayed for 24 hours. This had come to be known by certain burglars who accordingly availed themselves of his absence to carry off the precious ornament. They had shortly after midnight broken into the house and were already in the dining-room when suddenly the front door bell was vigorously pulled and thereupon they made a precipitate retreat empty-handed. That ringing of the bell saved the *Fox*. Whence came it? One of the doctor's patients at the Rotunda—a poor woman in whose case he had been much interested—had been removed in convalescence to her humble home in Dublin with strict injunctions that on the recurrence of certain symptoms she was to send for him immediately, whatever the hour of day or night. Sent for he was accordingly, and it was that summons at the front door that scared the burglars. This the doctor ascertained next day on revisiting his patient who was still doing well. 'So you see,' added our kindly host, 'an incident in professional routine may bring with it a recompense far beyond the fee that was never looked for, though fairly enough earned'; and then we resumed the conversation which had been started on the 'New Sydenham Society' and the doctor's masterly edition, brought out under its auspices, of the works of William Smellie, one of the pioneers of gynæcology."

THE METROPOLITAN ASYLUMS BOARD.

THE question as to whether the Metropolitan Asylums Board should undertake the treatment of tuberculosis was again discussed at a meeting of the Board on Saturday last, Nov. 23rd, when it was introduced in the form of a motion, proposed by Mr. J. Thornley, to the effect that the Southern Hospital at Carshalton, now vacant, should be opened for the accommodation and treatment of consumptive cases in the early stages, chargeable to the metropolitan boards of guardians. The mover argued that at the present time the upkeep of the hospital cost the ratepayers £13,000 per annum, whereas if they accepted cases of pulmonary tuberculosis at the rate of 4*s*. per head they would at least get a return of something like £8000 per annum. The deaths also during the past year from consumption amounted to 7000, while those from scarlet fever were only 852

A long discussion followed, during which it was stated that the Board had no mandate from the ratepayers of the metropolis on the subject. An amendment was eventually carried that in the absence of any further information on the subject from the Local Government Board the Asylums Board could not see its way to take any useful action. Some interesting appointments to the Board are also impending, tending to bring the Board into close touch with modern preventive medicine. In accordance with a Local Government Board Order, under which the managers of the Metropolitan Asylums Board are empowered to appoint a medical officer for general purposes, the general purposes committee of the Board has given notice for the next meeting of the Board, on Saturday, Dec. 7th, to appoint Dr. H. E. Cuff as medical officer for general purposes. He will rank as an officer on the staff at the head office, at a salary of £800, rising to £850 per annum by annual increments of £25. The duties of the new officer will be, amongst other things, to conduct special investigations into, and to collect information as to, any hygienic or medical subjects in which the managers may be interested; to investigate, when directed, alleged accidents, "return" cases, complaints by or concerning patients, and outbreaks of disease at any institution; to organise emergency services (e.g., for cholera or plague); to aid in the preparation of the Board's annual report, and to advise as to collating or recording statistics; to advise the clerk to the Board in any correspondence in which medical knowledge is requisite; to assist the managers in obtaining information on, and determining questions of drainage, ventilation, sanitary appliances, and all matters bearing on health; and to advise the managers periodically in the revision of the schedules of drugs, druggists' sundries, and surgical appliances. The following appointments will also be considered at the same meeting of the Board: Dr. G. E. Cartwright Wood, bacteriologist at the antitoxin laboratories at Belmont, at a salary of £600, and an assistant at a salary of £300 per annum.

THE Richard Middlemore post-graduate lecture for 1907 will be delivered at the Birmingham and Midland Eye Hospital by Mr. J. Jameson Evans, M.D. Birm., F.R.C.S. Eng., surgeon to the hospital and ophthalmic surgeon to the Institution for the Blind and the Marston Green Homes. The lecture will be delivered on Thursday, Dec. 12th, at 4.30 P.M., the subject chosen by the lecturer being Prophylactic Measures in Ophthalmology. All members of the medical profession are invited to attend.

A CORRESPONDENT of Reuter's Press Agency was received on Tuesday afternoon at Highcliffe for the purpose of receiving and making public a categorical contradiction from Surgeon-General Ilberg, the body physician of the Emperor of Germany, of the numerous mis-statements that have recently appeared concerning the Emperor's health.

Professor John Ferguson, M.A., LL.D., F.S.A., will preside at a dinner of the Glasgow University Club, London, to be given in the Trocadéro Restaurant, Piccadilly-circus, W., on Friday, Dec. 6th, at 7.15 for 7.30 P.M. Applications for tickets should be addressed to the honorary secretaries, 63, Harley-street, London, W.

THE Department of Public Health of Queensland in a bulletin dated Oct. 19th states that no fresh case of plague has occurred at Cairns during the week ending Oct. 19th. No case of plague has occurred in Brisbane since July 26th.

WE regret to have to announce the death on Nov. 25th of Dr. Hubert Montague Murray, senior physician to Charing Cross Hospital. We shall publish an extended notice of his career in a future issue.

Sir William H. Bennett, K.C.V.O., has been elected President of the Incorporated Institute of Hygiene in place of the late Sir William H. Broadbent, Bart.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE Board of Education, in conformity with its circular issued in September, has issued a circular containing various information and recommendations to local authorities concerning the provisions for the medical inspection of school children contained in Section 13 of the Education (Administrative Provisions) Act, 1907. The memorandum contains 18 sections, of which Nos. 1, 2, and 3 deal with the scope and purpose of the Act; Nos. 4, 5, 6, and 7 with organisation; No. 8 with subsidiary agencies; Nos. 9, 10, and 11 with the character and degree of medical inspection; Nos. 12 and 13 are devoted to regulations; and Nos. 14 to 18 inclusive deal with the question of amelioration and physical improvement. We give below the main points of the circular in question.

MEMORANDUM ON MEDICAL INSPECTION OF CHILDREN IN PUBLIC ELEMENTARY SCHOOLS.

SCOPE AND PURPOSE OF THE ACT.

1. The Education (Administrative Provisions) Act, 1907, in so far as it concerns the medical inspection of school children, is the outcome of a steady movement of public opinion throughout the entire community. For some years past evidence has been accumulating that there exists in certain classes of the English people a somewhat high degree of physical unfitness which calls for amelioration, and, as far as possible, for prevention. A consideration of the gravity of the need led to the conclusion that medical inspection of school children is not only reasonable but necessary as a first practical step towards remedy. Without such inspection we not only lack data, but we fail to begin at the beginning in any measure of reform.

The Board desire therefore at the outset to emphasise that this new legislation aims not merely at a physical or anthropometric survey or at a record of defects disclosed by medical inspection, but at the physical improvement, and, as a natural corollary, the mental and moral improvement, of coming generations. In point of fact, if rightly administered, the new enactment is economical in the best sense of the word. Its justification is not to be measured in terms of money but in the decrease of sickness and incapacity among children and in the ultimate decrease of inefficiency and poverty in after-life arising from physical disabilities.

2. The section of the Education (Administrative Provisions) Act, 1907, which concerns medical inspection of school children (Section 13) is as follows:—

"13.—(1) The powers and duties of a local education authority under Part III. of the Education Act, 1902, shall include—

[(*a*) Power to provide for children attending public elementary schools, vacation schools, vacation classes, play centres, &c.]

(*b*) The duty to provide for the medical inspection of children immediately before or at the time of or as soon as possible after their admission to a public elementary school, and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools:

Provided that in any exercise of powers under this section the local education authority may encourage and assist the establishment or continuance of voluntary agencies and associate with itself representatives of voluntary associations for the purpose.

(2) This section shall come into operation on the first day of January nineteen hundred and eight."

From this it will be seen that two main provisions are incorporated in the section, namely, first, the duty, laid upon all local education authorities, of the medical inspection of children at a stated time and on such other occasions as the Board of Education may direct; and secondly, the power given to all local education authorities of making arrangements, to be sanctioned by the Board, for attending to the health and physical condition of the children in elementary schools.

3. Almost all local education authorities have taken steps of some kind in the promotion of school hygiene, and many have conducted some form of medical inspection. Hitherto, however, such inspection has been concerned only or chiefly with children selected from the school or class as being in some way obviously defective or diseased. Much has been left undone in the way of adapting the methods of teaching to the special physical needs of the children. Moreover, in many districts not only have serious defects of sanitation, such as bad lighting and lack of ventilation, injuriously affecting the children, been ignored, but even the means of preventing the extension of infectious diseases have been neglected in greater or less degree. The present Act is not intended to supersede the powers which have long been exercised by sanitary authorities under various Public Health Acts, but is meant to serve rather as an amplification and a natural development of previous legislation.

ORGANISATION.

4. The respective functions of the Board of Education and the local education authorities are clearly defined by the Act. The duties thrown upon the Board consist in advising local education authorities as to the manner in which they should carry out the provisions of the Act; and in considering and sanctioning such arrangements for attending to the

health and physical condition of the children as may be submitted to them by individual authorities. The Board will also collate the records and reports made by the authorities and will present an annual report to Parliament. The duty of carrying out the actual inspection has necessarily been entrusted by Parliament to the local education authorities and not to the Board. Each authority must therefore in due course appoint such medical officers or additional medical assistance as may be required for the purpose. In subsequent paragraphs some general guidance is given as to the minimum amount of inspection required.

5. In view of the varied influences which affect, directly or indirectly, the health of the children of the nation, it is manifestly of the highest importance that the administration of this Act should rest upon a broad basis of public health, and should not only secure for local education authorities as much freedom as is consistent with adequate uniformity in the presentation of results for comparative purposes, but should also use to the utmost extent the existing machinery of medical and sanitary administration, developing and supplementing it as required, rather than supplanting it by bringing into existence new agencies, partially redundant and possibly competing. The Board view the entire subject of school hygiene not as a speciality or as a group of specialities existing by and of themselves but as an integral factor in the health of the nation. The application of this principle requires that the work of medical inspection should be carried out in intimate conjunction with the public health authorities and under the direct supervision of the medical officer of health. The advantages of such unification of the public health services have already been recognised by the Inter-Departmental Committee on Medical Inspection and the Feeding of School Children and also by the Local Government Board.

6. It is unnecessary to emphasise the objections to a dual jurisdiction in such matters as the sanitary control of school premises and the notification and prevention of the spread of infectious diseases in which the duties of the medical officer of health and the school medical officer necessarily and obviously overlap. If they are to be effectively carried out the interests and activities of the school medical officer must extend over the whole external environment of the child. School hygiene cannot be divorced from home hygiene, and this in turn is intimately bound up with the hygienic conditions of the community. Efficiency and economy require therefore an organic relationship between the daily work of the school authority and of the authority responsible for the administration of the wider branches of public health, including the supervision of water- and milk-supplies, food, housing and sanitation, inquiries into matters affecting infant mortality (including ante-natal influences), home visiting by men and women inspectors, sanitary and bacteriological investigations, the provision of hospital accommodation, disinfection, the cleansing of verminous persons, the notification of the prevalence or otherwise of diseases, such as phthisis, affecting the adult population, and the consideration of social factors, such as the occupation of the parents, or the health, habits, and physical conditions of the family, all of which have a bearing, direct or indirect, upon the children's health.

7. After careful consideration both of the present conditions of local sanitation and of the developments most likely to serve the economical and efficient administration of this important branch of public work, the Board are of opinion that—

(*a*) In county areas the county council, which is the local education authority, should instruct their county medical officer, who will be responsible for smooth and effectual administration, to advise their education committee and to supervise the new work, its actual execution being deputed wholly or partly to suitable medical colleagues or assistants (men or women), who either will be appointed specially for the purpose under him or will be local medical officers of health, and to whom groups of schools may be allocated. Where no county medical officer has yet been appointed under the Local Government Act, 1888, it would seem that the new duties in regard to medical inspection of children now imposed on the county council will render it inadvisable any longer to postpone such an appointment.

(*b*) In county boroughs the town council, which is at the same time both the local authority for public health and also the local education authority, should instruct their medical officer of health to advise the education committee and should make him responsible for the new work or for the supervision of such medical assistance as is needed to carry it out. Where appointments of school medical officers already exist the Board do not suggest that they should be disturbed, provided always that the officers are competent and sufficient for the new duties and that the arrangements for supervision by the medical officer of health are satisfactory.

(*c*) In non-county boroughs, and urban districts which are local authorities for elementary education, the desirability of ultimately making similar arrangements, separately or in combination with contiguous districts, should be kept in view, though for the time being some variation may be requisite in accordance with local needs and circumstances.

That is to say, generally speaking, the work of inspection should be supervised by the medical officer of health of the authority which appoints the education committee; and when the work is obviously more than he can undertake unaided it should be entrusted to one or more medical officers working under his supervision. In some districts it will be found convenient for such officers to be local medical officers of health holding office within the county; in others, they may be registered medical practitioners specially appointed for this purpose. Provided that the principle of coördination of the medical services is secured in practice, and that the requisite personal and professional qualifications for the new work are present, it is clear that the functions of the school medical officer may be exercised by a medical officer of health, a Poor-law medical officer, a private practitioner, or, as occasion requires, a skilled specialist. When it is necessary to appoint officers for the purpose of the Act it is extremely important that persons of suitable qualifications and experience should be selected, even though they may not be called upon to give the whole of their time to these duties, and it should be noted that there are many cases in which women are likely to be specially suitable. In making such appointments preference should be given to medical men and women who (1) have had adequate training in State medicine or hold a diploma in public health, (2) have had some definite experience of school hygiene, and (3) have enjoyed special opportunities for the study of diseases in children. The particular needs and circumstances of the area or group of schools concerned should receive due consideration and great care must be taken to see that school hygiene really forms an integral and fundamental part of the public health administration of the district and is not subordinated to other less important sanitary questions. All school medical officers, whether they are holding statutory office as medical officers of health in the area in which they are carrying out the new Act or not, must obviously work in close coöperation with the sanitary authorities throughout the county and must be kept informed as to the occurrence of notifiable diseases within their educational areas. This applies in a special degree to the county medical officer. It is imperative that the close inter-relation between school hygiene and general hygiene, particularly that of the home of the child, should be secured and maintained.

SUBSIDIARY AGENCIES.

8. The Board are convinced that the work of medical inspection cannot be properly accomplished by medical men without assistance. The teacher, the school nurse (where such exists), and the parents or guardians of the child must heartily coöperate with the school medical officer. In whatever way the system be organised its success will depend, immediately and ultimately, upon the cordial sympathy and assistance of the teachers. Some authorities will find that the teachers are able to undertake, without undue strain, a share of the work of furnishing data respecting each child, and even, perhaps, to carry out some portion of the inspection; and it is clear that the successful application of the principles of hygiene to school life will depend almost entirely upon their efforts. What the mother is in the home the teacher is in the school. Experience shows that when the teachers understand the necessities and opportunities of the situation they are both willing and able to take their share. Their coöperation in the work already done in this direction has been beyond praise. The school nurse and health visitor are also important agents in school hygiene. It is essential, however, that the teacher, school nurse, or health visitor assisting in the administration of this Act should act strictly under the instruction and supervision of medical authority. Nor must the influence which the parent can exercise by example and precept be neglected. One of the objects of the new legislation is to stimulate a sense of duty in matters affecting health in the homes of the people, to enlist the best services and interest of the parents, and to educate their sense of responsibility for the personal hygiene of their children. The increased work undertaken by the State for the individual will mean that the parents have not to do less for themselves and their children, but more.

CHARACTER AND DEGREE OF MEDICAL INSPECTION.

9. From what has been said it will be clear that the fundamental principle of Section 13 of the new Act is the medical examination and supervision not only of children known, or suspected, to be weakly or ailing, but of all children in the elementary schools, with a view to adapting and modifying the system of education to the needs and capacities of the child, securing the early detection of unsuspected defects, checking incipient maladies at their onset, and furnishing the facts which will guide education authorities in relation to physical and mental development during school life. It is evident that—although this work involves (*a*) medical inspection of school children at regular intervals, (*b*) the oversight of the sanitation of the school buildings, and (*c*) the prevention, as far as may be, of the spread of infectious and contagious diseases, including skin diseases—action in these three directions will be incomplete unless (*d*) the personal and home life of the child are also brought under systematic supervision. The home is the point at which health must be controlled ultimately.

The character and degree of medical inspection will depend on the standpoint from which the subject is viewed, the difficulty being, of course, to attain a due sense of proportion and uniformity, particularly as to fundamental points. Valuable to science though the findings of a more thorough and elaborate medical examination might be, it is the broad, simple necessities of a healthy life which must be kept in view. It cannot be doubted that a large proportion of the common diseases and physical unfitness in this country can be substantially diminished by effective public health administration, combined with the teaching of hygiene and a realisation by teachers, parents, and children of its vital importance. The spread of communicable diseases must be checked; children's heads and bodies must be kept clean; the commoner and more obvious physical defects at least must be relieved, remedied, or prevented; schoolrooms must be maintained in cleanly condition, and they must be properly lighted, well ventilated, and not overcrowded; the training of the mental faculties must not be divorced from physical culture and personal hygiene. It is these primary requirements which must first receive attention.

10. The directions given in this circular as to the degree and frequency of inspection refer only to the minimum medical inspection, the effectiveness of which will in future be one of the elements to be considered in determining the efficiency of each school as a grant-aided school. They are not intended to exclude other medical work, which the Board trust will be undertaken by local education authorities according to their abilities and opportunities. For example, the re-testing of the eyesight of every child periodically would be most valuable; an annual measurement of height and weight; the more frequent examination of particular children, especially of those suspected to be suffering from deficient nutrition or found to be defective at former inspections; careful anthropometric surveys or special inspections at various ages of school-life; and similar investigations of a special nature undertaken in particular districts come within the category of additional medical work wholly desirable where practicable, and calculated to advance school hygiene. Such work, however useful, should be looked upon as subsidiary to the main purpose of the Act.

11. A consideration of these matters has led the Board to the conclusion that as far as practicable the statutory medical inspection should, at entrance or at subsequent inspection, take account of the following matters:—

(1) Previous disease, including infectious diseases.
(2) General condition and circumstances—
  (*a*) Height and weight.
  (*b*) Nutrition [good, medium, bad].
  (*c*) Cleanliness [including vermin of head and body].
  (*d*) Clothing [sufficiency, cleanliness, and footgear].
(3) Throat, nose and articulation [mouth-breathing, snoring, stammering, tonsillar and glandular conditions, adenoids].

(4) External eye disease and vision testing.
(5) Ear disease and deafness.
(6) Teeth and oral sepsis.
(7) Mental capacity [normal, backward, defective].
(8) Present disease or defect: [(*a*) deformities or paralyses; (*b*) rickets; (*c*) tuberculosis (glandular, pulmonary, osseous, or other forms); (*d*) diseases of skin and lymph glands; (*e*) disease of heart or lungs; (*f*) anæmia; (*g*) epilepsy; (*h*) chorea; (*i*) ruptures; (*j*) spinal disease; (*k*) any weakness or defect unfitting the child for ordinary school life or physical drill, or requiring either exemption from special branches of instruction or particular supervision].

It is unnecessary to discuss here the advisability or otherwise of including in a minimum inspection the various points appearing in this summary, or to add that commonly the findings as to organic defects will be of a negative character, the positive facts of the inspection being relatively few, and in part obtainable by the trained teacher or school nurse. (See Par. 15.) Moreover, some of the above conditions will not require investigation in children on admission when this takes place at or under five years of age. On the other hand, some defective children will require a more thorough examination than this minimum. Reasonable latitude must be allowed, and the summary must be taken only to indicate the points upon which the Board desire as much uniformity as possible in the minimum medical inspection, and must be adapted to the age-period. The Board propose to issue at an early date an examination form suitable to this inspection.

Regulations.

12. The Board have decided under Section 13 of the Act that *not less than* three inspections during the school life of the child will be necessary to secure the results desired.[1] The first inspection should take place at the time of, or as soon as possible after, admission to school; the second at or about the third year (say, the seventh year of age); and the third at or about the sixth year of school life (say, the tenth year of age). A further inspection immediately before the departure of the child into working life would be desirable where practicable and in some areas it may be best for this to take the place of the third inspection. Certain adjustments will be necessary in working out any standard in practice, as it will at once be evident that without such adjustment the first year (1908) would be unduly burdened with the inspection of the children newly admitted and of all the children already in school. Provision should be made by each authority, when the Act has been sufficiently long in operation to be in normal working, for the inpection in each year of (*a*) the children newly admitted; (*b*) the children in the school who in that year had matured for their second inspection; (*c*) those who had matured for their third inspection; and where practicable (*d*) those about to leave school might also be inspected. But in the first year (1908) it may prove impracticable to attempt more than the inspection of the children newly admitted and those leaving school; and in the second year (1909) the Board will be satisfied with the inspection of those newly admitted and those leaving, with the addition of children who have matured for their second inspection (which is perhaps the occasion of all others requiring the most thorough examination). The Board recommend that each local education authority should encourage one or both of the parents of the child to be present at the first inspection and to this end a notification should be sent to the parents as to the time and place at which it will take place. Whilst some trouble may be involved in inviting the parents, the Board believe that substantial gains would thus be secured, for by this means misunderstandings will be avoided and prejudice will be disarmed. Moreover, the parent is able to facilitate examination and provide information, and the medical inspector's opinion could be given clearly and directly to the persons most nearly concerned.

13. The following further regulations should be observed:—

(*a*) The inspection should be conducted in school hours and on school premises, and in such a way as to interfere as little as may be with school work. The examination of each child need not, as a rule, occupy more than a few minutes.

(*b*) The convenience of the teaching staff and the circumstances of each school must receive consideration, and in these matters and in the actual examination the medical officer will no doubt exercise sympathy and tact, giving due thought to the personal susceptibilities of those concerned.

(*c*) The facts revealed by inspection must be entered in a register kept at the school, the confidential nature of many of the entries being carefully respected. A copy of the entries should be transmitted with the child to any other school to which he or she may go.

(*d*) Every school medical officer should make an annual report to the local education authority on the schools and children under his superintendence, which should be printed for facility of reference and in order that a supply of copies may be available for distribution among the members of the authority and other persons interested. The authority should send two copies of the report to the Board of Education as soon as possible after the end of the year under review.

(*e*) In order to secure effective bases for comparison of the work done in different parts of the country one uniform year must be taken, the year to be adopted being in all cases the calendar year, in order to correspond with the annual period fixed for the closely related report of the medical officer of health.

(*f*) The report should be concerned chiefly with the conditions and circumstances affecting the health of the children in the elementary schools of the district.

(*g*) It should also contain statistical records of the number of children examined and of those re-examined or under medical supervision; the nature and results of the examination; the number of visits paid to classes; the number and character of the diseased conditions found at certain age periods; particulars as to blind, deaf, defective and epileptic children; the medical advice given both as to the prevention of conditions inimical to health and the remedy of diseased conditions that may be discovered, action taken, and so forth.

(*h*) In addition to such records it will be well, as far as practicable, to make systematic comparisons of the individual and collective measurements and characteristics of the children in each school with standard and local records, both as a means of determining the condition of health of particular children or classes for guidance in future action and as part of the anthropometric survey to which this Act should contribute in due time. This part of the work, however, must be kept in a secondary position while so much remains to be done in the elementary essentials of school hygiene. It is to those essentials and the manner and degree in which they have been dealt with in his district that each school medical officer should devote the major portion of his report.

Amelioration and Physical Improvement.

14. The aim of the Act is practical and it is important that local education authorities should keep in view the desirability of ultimately formulating and submitting to the Board, for their approval under Section 13 (1) (b) of the Act, schemes for the amelioration of the evils revealed by medical inspection, including, in centres where it appears desirable, the establishment of school surgeries or clinics, such as exist in some cities of Europe, for further medical examination, or the specialised treatment of ringworm, dental caries, or diseases of the eye, the ear, or the skin. It is clear that to point out the presence of uncleanliness, defect, or disease does not absolve an authority from the consequent duty of so applying its statutory powers as to secure their amelioration and to prevent as far as possible their future recurrence or development. The subject of specific medical treatment is, however, one which will require subsequent consideration in the light of the findings of medical inspection and the collateral issues raised thereby, and it is clear that, speaking generally and subject to the observations in the following paragraphs, local education authorities will be unable to formulate and submit for the Board's sanction any comprehensive scheme for the furtherance of this object until they have considered the results of their medical inspection in various directions.

15. In the meantime the authorities should take measures without delay for dealing through such agencies as are conveniently available with what are commonly, though in a sense erroneously, regarded as minor ailments. To such ailments measures of amelioration should immediately be applied. In a broad sense all such amelioration is "treatment." Indeed, properly administered, the Act must become something more than a mere record of disabilities and defects. Up to the present many authorities have followed the first course. It is intended that in future they should, according to their abilities, adopt the third. Verminous heads and bodies form another illustration of a common condition in which amelioration can be secured by school nurses. Further, a careful survey should be taken of all available facilities for the promotion of the bodily cleanliness of school children. Wherever such facilities exist they should be utilised to the utmost, and where they are absent the desirability, particularly in the more congested areas, of providing them, either in the schools themselves or at convenient centres, should be clearly recognised. It is of the utmost importance to remember that baths with the necessary accompaniments of soap, sponges, towels, &c., should be utilised, not merely for the immediate and obvious purpose of cleansing the bodies of the children, but also as a humanising influence and as the means of inducing habits and instincts of cleanliness and of inculcating practical lessons in the value of personal hygiene and in self-respect. The same is true of such other simple practical matters as the daily brushing and cleansing of the teeth, which is a subject well worth careful treatment in many of our elementary schools.

16. Practical amelioration is already undertaken by local education authorities in checking the spread of infectious disease by exclusion of affected or susceptible children, supervision and medical examination of "contacts," disinfection of schoolrooms, and so on. Obviously such remedies are of greater importance to the eventual health of the community than the specific medical treatment of individuals.

17. Lastly, it must not be forgotten that Parliament itself has recognised the necessity of imposing some share of responsibility upon education authorities as to treatment in the broader sense in which the term is being used in this paragraph by the special legislation provided in the Elementary Education (Blind and Deaf) Act, 1893, and the Elementary Education (Defective and Epileptic) Act, 1899. In all questions relating to the practicable means of amelioration and in some even affecting the arrangements for medical inspection, the Board are satisfied that the efficient local administration of the Act will depend in no small measure upon the good offices of school managers, many of whom have already done so much in this sphere and to whose interest and sympathy they cordially commend the new work.

18. This circular is of a preliminary nature only and concerns almost entirely the work of the new Act at its initiation. The Board recognise the importance of steady progress in these matters and have at present under consideration the practicability of the further adaptation of educational methods to the physical and mental capacities of the normal and abnormal child, of special anthropometric and analogous investigations, and of improving the methods of dealing with infectious diseases in schools. Such questions as school ventilation, the curricula of infant departments, the training of crippled, feeble-minded, blind, deaf, or mentally deficient and epileptic children, special schools for other types of afflicted children, physical culture for pupil-teachers, the standard of medical education for pupil-teachers, for training college students, and for teachers, and other kindred subjects are also receiving their careful attention. Further, the Board are urging the necessity of giving special instruction in the principles of hygiene to all students in every type of training college, so that they may be able to deal profitably with this subject in the schools. To deal rightly and effectually with these matters will take time. The Board are desirous that the administrative machinery necessary for the appropriate working out, in various localities, of these and allied questions shall be the outcome of real organic growth rather than of a hasty attempt to impose one mechanical system upon all districts, irrespective of their requirements or resources. And in all steps taken the progressive unification of the medical services and the needs and circumstances of each community must continually be borne in mind.

ROBERT L. MORANT.

Board of Education, Whitehall, London, S.W.,
22nd November, 1907.

[1] There will be special areas where the Board may from time to time require that the inspection should be at shorter intervals and of a more searching character, and also areas in which, owing to largeness of size or population, some exception may have to be made in the early years by way of reduction of the burden per annum.

REPORTS OF THE ROYAL COMMISSION ON HUMAN AND ANIMAL TUBERCULOSIS.

III.[1]

PREVIOUS articles in this series[2] have given a brief account of the first three volumes which form the appendix to the Commission's second report of last January. The remaining volumes, now published, comprise a report by Dr. A. Eastwood on the comparative histology of the experimental lesions produced by tubercle bacilli from bovine and human sources and on the cultural and microscopic characters of bovine and human tubercle bacilli, and also a collection of papers on additional investigations of human and bovine viruses contributed by Dr. L Cobbett, Dr. A. S. Griffith, Dr. F. Griffith, and Mr. H. J. Hutchens. Both volumes exemplify the magnitude and thoroughness of the laboratory observations which the Commission has carried out in connexion with, as well as independently of, the various inoculation and feeding experiments at the Stansted farms.

Comparative Histology.

Dr. Eastwood's monograph on histological studies of the tuberculosis set up in different species of animals by viruses of differing origin and virulence is a mine of valuable information, well arranged for reference. He concludes that the work as a whole emphasises the underlying unity of the morbid processes produced experimentally by infection with every variety of human and bovine tubercle bacillus. These processes showed very marked differences in severity, dependent partly upon the dose and the virulence of the bacilli introduced and partly upon the susceptibility of the animals selected for the experiment. But even when animals of high resistance, such as calves, were inoculated with bacilli of relatively low virulence lesions were frequently produced in situations remote from the site of inoculation which were typical tubercles and comparable to the lesions produced in bovines by bacilli of high virulence when the experimental conditions were such as to favour the resisting powers of the animal. In the case of the dog, which also possesses a high degree of resistance, the correspondence of lesions produced by viruses of different degrees of virulence occurred with greater frequency than in the calf. When highly susceptible animals were used, such as anthropoid apes and monkeys, similar lesions—not only of the more chronic but also of the more acute types—appeared to be produced with almost equal readiness by the bacilli of high and of low virulence in respect of the bovine species. We quote the following passage from the report:—

> The underlying unity of the morbid process known as tuberculosis is so frequently taken for granted that its importance is often ignored. Nothing has been done before or since 1901 to invalidate the great mass of evidence which had been accumulated by histologists, both before and after the discovery of the tubercle bacillus, in demonstration of the essential unity, as one and the same disease, of many phases of the morbid process which tuberculosis may assume. Moreover, the proof that the bacillus of Koch is the cause of tuberculosis is based on the fact that it is constantly found in the lesions histologically known as tubercles.

Comparative Bacteriology.

In regard to the cultural and morphological characters of tubercle bacilli of one or another origin it will be remembered that the Commission adopted the term "dysgonic" to signify a bacillus which grows with difficulty on artificial media and "eugonic" to apply to a bacillus which grows readily in the same media. Dysgonic bacilli, as a class, were associated with bovine tuberculosis and with those strains of human tuberculosis ("Group I.") which proved, as a result of animal inoculation and experiment, to be identical with strains of bovine tubercle. Eugonic bacilli, on the other hand, were associated with the majority of the human strains of tuberculosis ("Group II."). The demarcation between the classes, however, appeared to be neither sharp nor broad. In each there was a wide range of growth, so wide that the least dysgonic in the dysgonic class differed slightly, if at all, from the least eugonic in the eugonic class. The data on which the Commission's conclusions on this matter were founded are given by Dr. Eastwood in regard to the various strains of both human and bovine tuberculosis examined at the Royalcote Laboratory, by Dr. Cobbett in regard to the human strains examined at the laboratory at Blythwood and by Dr. A. S. Griffith in regard to bovine strains examined at Walpole. Dr. Eastwood, giving particulars as to some 175 strains, representing 30 different bovine and 57 different human viruses, divides the bacilli concerned into five grades, based on the combined characters which the cultures exhibit on broth, glycerine agar, and potato. His description of the general characters of bacilli of Grade I., the most dysgonic, and of Grade V., the most eugonic, may be quoted. Intermediate characters are given for Grades II., III., and IV.:—

> Grade I.—Growth poor on all three media. On broth the pellicle is often slow in making its appearance; it is generally very delicate, semi-translucent, and speckled with a variable number of white spots; occasionally it is opaque; it is very thin on the whole and, with the exception of a few irregularly thickened areas, uniform. On glycerine agar a thin grey haze on the surface is generally all that is to be seen at the end of five or six weeks. On potato, at the end of the same period, the growth does not consist of more than a few minute grey colonies or streaks.
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> Grade V.—Growth luxuriant on all three media. On broth, rapid formation of thick, tough wrinkled pellicle, with no tendency to sink. On glycerine agar, a layer which is usually warty, wrinkled, and dense. On potato, rapid formation of a heaped-up richly pigmented growth.

Morphologically the "eugonic" bacillus" (Grades IV. and V.) when grown on media other than serum has a tendency to settle down into the type of bacillus which is much longer than the serum bacillus, shows a well-marked curve, and is either uniformly stained or, when stained irregularly, shows a tendency to regular beading. Bacilli of these two grades grow with greater ease on most glycerinated media than the more "dysgonic" Grades I. to III.

Dr. Eastwood and Dr. A. S. Griffith both contribute reports upon investigations of reactions which have been employed by Theobald Smith to distinguish the "bovine" from the "human" type of the bacillus, and depend upon differences in the extent and rate of development of acidity or of alkalinity in glycerine broth as a result of the growth of the bacilli in that medium. They find that bacilli of the human strains of the Commission's Group II.—i.e., strains of bacilli of the "eugonic" type and of slight virulence to bovines—in general show distinctive reactions when tested in this way when compared with those of bacilli of bovine origin or of the human "Group I." But they regard this circumstance as in no sense establishing a physiological difference between two varieties of bacilli; the reaction in question appears to be merely an index of the abundance and duration of the bacillary growth which takes place in the glycerine broth.

Cultural Characters in Relation to Virulence.

The cultural characters of bacilli of a given strain are usually stable and persist through many different kinds of animal passage and through growth on many varieties of artificial media. As regards virulence, the rule, to which very few exceptions were found, is that viruses of high virulence grow less luxuriantly than viruses of lower virulence. But Dr. Eastwood is careful to point out that the parallelism must not be pushed too far. Instances have been recorded in which there have been (1) a diminution in virulence; (2) an increase of virulence; (3) a diminution in cultural luxuriance; (4) an increase in cultural luxuriance; (5) association of relatively low cultural luxuriance with relatively low virulence for the bovine; and (6) association of relatively high cultural luxuriance with high virulence for the bovine and the rabbit. In brief, the differences in virulence of different bacilli, in the types of histological lesion produced by identical bacilli, and in the cultural characters of different bacilli all "overlap and interweave so closely that it is impossible to find an adequate scientific basis for separating these bacilli into two or more families." Elsewhere he points out that the evidence of capacity for modification of the tubercle bacillus is sufficient to make caution necessary before it is concluded that a case of human tuberculosis has not originated in bovine infection because the associated bacilli are of the "eugonic" variety. "In course of long residence in the human body a bacillus, originally of bovine origin, might experience a modification of some of those characteristics which are met with in bacilli freshly isolated from the bovine, and owing to this modification it might be indistinguishable from bacilli derived from

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[1] Appendices to the Second Report of the Royal Commission: Vol. III., "Additional Investigations of Bovine and Human Viruses," by Dr. L. Cobbett, Dr. A. S. Griffith, and Dr. F. Griffith. Cd. 3758. Price 2s. 4d. Vol. IV., Comparative Histological and Bacteriological Investigations, by Dr. Arthur Eastwood. Cd. 3378. Price 2s. 8d. London: Wyman and Sons. Edinburgh: Oliver and Boyd. Dublin: E. Ponsonby.

[2] THE LANCET, Sept. 7th, 1907, p. 726, and Oct. 26th, 1907, p. 1180.

previous cases of human disease. In this connexion it is important to remember that a large amount of experimental and histological evidence has been accumulated showing that bacilli introduced by the alimentary tract readily gain access to the lungs."

Dr. Cobbett, in the course of a paper dealing with the cultural characters of the tubercle bacilli met with in the various human viruses which he tested, lays stress on the importance to classification of comparing strains which have been the same length of time under cultivation on the same medium, and of forming judgment only from the best growths on a given medium. Early cultures and short periods of cultivation he considers to be most satisfactory for the purpose. Like Dr. Eastwood, he points to many instances where variations in cultural characters have taken place without any change of virulence, as in cases where virulent strains which would not at first grow on glycerine media have adapted themselves to these media. But he found that after experience had been gained he seldom failed correctly to foretell the comparative virulence of a strain from a cursory study of the characters of its early cultures.

Dr. A. S. Griffith and Dr. F. Griffith, dealing solely with bacilli of bovine origin, contribute a report on the variations of different bovine viruses in the capacity of the bacilli for growth on media containing glycerine. Within limits considerable differences were observed which contrasted with the growth on pure serum, which had practically the same character in the case of all viruses. No variation in virulence was ascertained to correspond to these differences of growth on glycerine media. In a further report the same writers show that the differences in question may to some extent disappear as a result of continued artificial culture on glycerine media. At the same time it is noteworthy that bacilli belonging to particular bovine viruses tenaciously retained a distinctive mode of growth on glycerine media after repeated and prolonged passages through experimental animals and cultivation on various artificial media. An experiment with dogs, however, indicated that bovine bacilli may increase in luxuriance of growth in culture and decrease in virulence to calves and rabbits as a result of passage through the body of the dog.

Dr. Cobbett, in a report dealing with similar questions in regard to the bacilli derived from the human viruses, lays stress on the remarkable stability of virulence (as compared with some other micro-organisms) of the tubercle bacillus on continued cultivation on artificial media, which hardly becomes appreciably attenuated after several years. The Commission found that a dose of tubercle bacilli when inoculated in an emulsion of tuberculous tissue was much more virulent than the same dose inoculated in the form of culture, but whatever be the correct explanation of this circumstance it cannot be attributed to attenuation of the bacilli as a result of culture or to any intrinsically smaller virulence which tubercle bacilli possess when contained in cultures. As regards glycerine media, Dr. Cobbett's experiments lead him to conclude that glycerine causes no true attenuation of the bacilli and that the reason that, dose for dose, serum cultures are a little more rapidly fatal than glycerine-serum cultures is, in all probability, because the latter are deficient in some toxic property which is present in the former.

Dissemination of Tubercle Bacilli in the Animal Body.

Students of the pathology of infective processes will find some articles by Dr. Cobbett at the end of Vol. III. particularly instructive. When calves were subcutaneously inoculated with viruses of the human Group II.—namely, those incapable of causing progressive tuberculosis in these animals—there were found on close inspection often one or more, rarely many, minute tuberculous foci in the lungs and other larger viscera, and in the lymphatic glands. These minute tubercles were at most as large as a small pin's head, hard, and translucent. Their presence was independent of the dose of bacilli inoculated but probably was influenced to some extent by individual susceptibility and by local conditions at the point of injection. Other experiments made it clear that as a result of subcutaneous injection of these non-virulent bacilli the organisms speedily become scattered in abundance by the blood stream all over the body of the resistant animal. Tubercle bacilli in these circumstances were frequently found to be present in the organs and glands of bovine animals several months after they had been injected. Often they were contained in minute retrogressive tuberculous foci of the kind referred to, but not unfrequently they were present in organs which appeared perfectly healthy to the naked eye. These facts were established by a series of inoculation experiments with the apparently normal tissues of calves killed at different intervals of time after injection with viruses belonging to the Commission's "Group II." In discussing these results Dr. Cobbett suggests that the process of dissemination in the calf of bacilli which are non-virulent to that animal is essentially passive, contrasting in various ways with the process of active invasion by bacilli of virulent strains, the effect of which is more closely related to the dose of infection and is accompanied by much greater local resistance. The observations have considerable value in explaining the occurrence of apparently isolated tuberculous lesions in parts such as the hip and knee-joints.

Other Observations.

Vol. III. concludes with an account of various observations upon the influence upon the severity of an experimental infection of (1) the variation in the capacity for resistance to tuberculosis of different individual animals of the same species and (2) the number of bacilli injected. In regard to (1) Dr. Cobbett notes that he found no examples in any species of an older animal being more severely affected than a younger one which received the same dose. The evidence that the mammary gland becomes more susceptible to infection during lactation was not strong, but the facts tended to show that under the experimental conditions the pregnant uterus was specially liable to tuberculosis, and that tuberculous uterine disease was associated with certain of the instances of congenital tuberculosis met with at the Commission's farms. The facts given as regards (2) illustrate the differences in the effect of equal doses of bacilli according as the dose has been comprised in emulsion of tuberculous lesions or in culture; the ability of certain animals such as the bovine to resist small doses of extremely virulent bacilli, in contrast to the absence of resistance in rabbits and other susceptible animals in which there appears to be no dose so small that it will not produce a progressive tuberculosis; and many like questions.

MEDICINE AND THE LAW.

Destruction of Infected Bedding, &c.

UNDER Section 121 of the Public Health Act, 1875, any local authority may direct the destruction of any bedding, clothing, or other articles which have been exposed to infection from any dangerous infectious disorder and may give compensation for the same. Section 308 of the same statute enacts that where any person sustains any damage by reason of the exercise of any of the powers of this Act, in relation to any matter as to which he is not himself in default, full compensation shall be made to such person by the local authority exercising such powers, and any dispute as to the fact of damage or amount of compensation shall be settled by arbitration in the manner provided by this Act, or if the compensation claimed does not exceed the sum of £20 the same may at the option of either party be ascertained by, and recovered before, a court of summary jurisdiction. Under Section 121 the compensation is given for the articles destroyed and although the council may not have an absolute discretion to give or to refuse compensation as it may think fit, but must exercise a judicial discretion in the matter and not withhold compensation capriciously, it may not be obliged to give any if it has reasonable grounds for coming to the conclusion that the circumstances do not entitle the claimant to any. The owner can only claim compensation under Section 121 when the articles have been destroyed by direction of the local authority itself or when it has ratified the proceedings. It was held in Garlick *v.* Knottingley Urban Council (2 L G.R. 1345) that the power given to the local authority by Section 121 to direct the destruction of articles which have been exposed to infection is not exercisable by the medical officer of health on his own initiative. Consequently, where such articles have been destroyed by the direction of the medical officer of health, given without the sanction of the local authority, the owner of the articles cannot, at all events in the absence of evidence of ratification of the medical officer's action by the local authority, claim compensation in respect of their destruction under Section 308 of the Act. Lord Alverstone,

Chief Justice, in the course of his judgment in that case said :—

It is plain that when rights of property are being dealt with, the destroying of a person's property ought to be upon the authority and by the sanction of the local authority. This is not a matter lightly to be left to the discretion of the medical officer. Of course, in cases of very bad infection it may be necessary for the medical officer to take steps and to have a special meeting of the local authority to deal with it, or if that state of things existed the local authority would be meeting to deal with the danger; but it seems to me that Section 121 does not contemplate the mere opinion of the medical officer, and I do not think it contemplates the local authority acting upon or ratifying the act of the officer.

An urban district council applied for sanction to the payment of compensation to certain persons for abstaining from their employment upon the occurrence of small-pox on the premises at which they resided, and the Local Government Board sanctioned the payment under the Local Authorities Expenses Act, 1887, but in doing so made the following observations :—It must not be expected that the Board will sanction similar expenditure in the future, as it is advised that in ordinary circumstances the quarantining at their homes of inmates of dwellings invaded by small-pox is not necessary in districts properly administered as regards sanitary matters and as regards vaccination. If on a dwelling becoming invaded by small-pox the actual patients are at once removed to hospital, the dwelling and all articles in it that have been exposed to infection are properly disinfected, and the other inmates of the house are immediately revaccinated or vaccinated (as the case may be), there is nothing to be gained in keeping those inmates at home commensurate with the expenditure that would be incurred. Not any of these other inmates are at all likely to infect other people unless and until they themselves develop small-pox, and all that is required is to keep such persons under medical observation for a fortnight, and particularly to examine them carefully day by day towards the end of the second week from first exposure to infection in order to ascertain whether any of them are developing small-pox. If none of them develop small-pox by the beginning of the third week from first exposure the revaccination (or vaccination) to which they were at once submitted on the occurrence of the first case in the invaded house should thenceforward secure them from attack by the disease. The Board is of opinion that in ordinary circumstances the course of action indicated above is the correct one. Occasions, however, may arise in which additional precautions may be necessary, as, for example, when laundries are in question, or where the business or habits of the inmates of the invaded houses are such as to make it difficult for proper medical observation of them to be maintained. In exceptional cases of this kind in which a district council is advised by its medical officer of health that in the special circumstances it is essential to retain the inmates in their own homes, the Board would be prepared to sanction a reasonable expenditure in securing such a result. The Local Government Board considers that an urban district council is not authorised to pay to the guardians of the union the amount of poor relief granted by reason of the family of a person attacked with small-pox having isolated themselves at the request of the medical officer of health.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE twenty-third annual meeting of the Fellows and Members of the College was held on Nov. 21st, Mr. HENRY MORRIS, the President, being in the chair.

The PRESIDENT opened the proceedings by making some remarks on the contents of the annual report laid before the meeting. He said that the report had been sent to 702 Fellows and to 2978 Members. A subject of great importance had been before the Council, the question of the admission of women to the examinations of the College. A petition had been received requesting this extension and the Council had had first to settle certain legal questions as to the possibility of admitting women, and the results were detailed in the report. Then having satisfied itself on these points the Council adopted a resolution—

That in the opinion of the Council it is desirable that women be admitted to examination for the diploma of Member.

The Royal College of Physicians was then approached in order to ascertain whether that College would be willing to admit women to the Conjoint examinations. A reply had not yet been received but if it were in the affirmative a poll of the Fellows and Members would be taken on the subject and the results of that poll would have great weight with the Council in coming to a final decision. The next matter was a very touchy subject—namely, the question of the direct representation of the Members on the Council. He would like to emphasise the fact that the Council was in no way hostile to the Members. Many of the Council were the sons of Members of the College and many of their personal friends were Members. The representation of the Members was a matter about which there could well be a difference of opinion. The Council was never opposed to an innovation merely because it was an innovation, but an innovation must be a definite reform before the Council would support it. The whole matter was to be found fully discussed in the report. The regulations of the Conjoint Board had recently been modified by the Council in order to prevent waste of time on the part of students who had failed in only one subject of the preliminary science examination. The Egyptian School of Medicine had been inspected and its examination had been attended by Dr. Theodore Dyke Acland as visitor from the Royal College of Surgeons of England and the Royal College of Physicians of London. The examinations of the Egyptian School of Medicine were recognised. The Royal Colleges had in a similar manner appointed assessors to visit the examinations of the London School of Tropical Medicine. The matter of the payment of medical men called in by midwives had been discussed at the annual meeting of last year and a close watch was being kept on the matter, so that the College would be able to bring its influence to bear when there seemed to be a prospect of doing good. The Royal Commission on Vivisection was progressing slowly but all felt that it was advisable that everyore who wished to give evidence should have an opportunity of doing so. He (the President) had attended and given evidence. He felt sure that every Fellow and Member would concur in the action of the Council in presenting an address to Lord Lister. The gift of £40,000 to the Imperial Cancer Research Fund by Mr. and Mrs. Bishoffsheim was especially gratifying, for it had been arranged that if, and when, the problems with reference to cancer should be solved the income of the fund is to be applied for the purposes of research under the direction of the two Royal Colleges. The President also announced that the bequest of £1000 by Mr. James Moncrieff Arnott, a former President of the College in 1885, had been received. He also wished to mention that the Council had granted £100 to the prosector of the Museum, Mr. Pearson, on the completion of 50 years' service to the College.

Mr. GEORGE BROWN wished to ask the President why he had inserted in the statement made by the deputation of members of the Council to the Lord President of the Privy Council the following sentence: "The experience of the direct representation of the profession on the Medical Council is not encouraging." He claimed that the work done on the General Medical Council by Wheelhouse, Foster, and Sir Victor Horsley would survive when the College had ceased to exist. Such a sentence could not be justified but he called upon the President to explain why it was inserted.

The PRESIDENT pointed out that if Mr. Brown would look at the context he would see that the sentence quoted merely had reference to the question of the numbers of the Direct Representatives. There was a demand for an increase of these direct representatives on the General Medical Council and so there would be for an increase of the Members' representatives in the Council of the College if any were appointed at all.

Mr. BROWN expressed himself as fairly satisfied by the explanation but the obstructive tactics of the Council would soon be at an end, for Parliament would intervene and give the Members the justice they demanded.

Mr. E. D. VINRACE desired to express his gratitude to the Council for the annual report and for the assurance that the Members would be consulted on the question of the admission of women. He asked for information as to the payment of corporation duty; did not that payment prove that the College was a body corporate and therefore the Members were a necessary part of it?

The PRESIDENT explained that corporation duty was an annual tax on bodies which had a continual existence and therefore escaped succession duty.

Mr. VINRACE further wished to point out that the 5000 Members who signed a petition for representation on the Council of the College formed a large proportion of the Members and that such a number was unprecedented. Further, he wished to ask how it was that the Council spent £128 on printing and binding the College Calendar and yet only £16 had been received from sales.

The PRESIDENT explained that a large number of copies of the Calendar were presented to scientific bodies.

Mr. FREDERICK W. COLLINGWOOD brought forward the following motion:—

That the President and Council of the Royal College of Surgeons be asked to use their moral influence with hospital authorities to recognise Members of the College (who are also in almost all cases Licentiates of the Royal College of Physicians) as having equal rights with provincial, Scotch, and Irish graduates to become candidates for hospital appointments.

He showed that from the statistics of those who entered for the public services the Members of the College had a higher percentage of successes than the holders of any other qualifications, except the graduates of the University of London; and it could not be denied that the curriculum prescribed by the English Conjoint Board and the examinations were as severe as those of any other qualification, excepting the University of London. It was therefore a very great pity that the examinations of the English Conjoint Board did not give the degree of Doctor. In spite of the superiority of the Conjoint diplomas many hospitals required that those who held posts in them must be graduates of a British University. He knew of one case where an M.R.C.S. Eng. and L.R.C.P. Lond. could not hold a house physiciancy in consequence of this requirement. He asked the President and Council to do their best in this matter as it was of importance to many.

Mr. H. ELLIOT-BLAKE, in seconding the motion, mentioned that he had collected similar statistics and that in many hospitals Members of the College had formerly held posts now not open to those possessing that qualification.

Mr. T. R. ATKINSON supported the motion, pointing out that the inability of the two Royal Colleges to grant the degree of Doctor was sending many students to the provinces.

Mr. BROWN wished that the wording of the motion had been stronger. The motion was carried *nemine contradicente*.

Mr. JOSEPH SMITH then moved:

That this twenty-third consecutive annual meeting of Fellows and Members again reaffirms the desirability of admitting Members to direct representation on the Council, which as now constituted does not represent the whole corporation.

For more than 20 years this demand for representation by the Members had been carried at the annual meeting and yet the Council had done nothing to forward the views of the Members. Outside the walls of the College such a state of things was considered incredible. Year after year this appeal to the Council had been issued and yet nothing was done. In the remarks made by the President of the College when the deputation of the Council waited on the Lord President of the Privy Council the statement appeared that "the introduction of frequent discussions of socio-political subjects would alienate the present class of councillors who would in time decline to sit in the Council at all." This statement had been made by the President but it was not true and he knew it was not true. It was most uncalled for and improper. The Lord President of the Privy Council could not understand the opposition of the Council of the College. He (the speaker) had great hopes of the future; representation would come, not by the aid of the Council but in spite of it.

Mr. J. BRINDLEY JAMES seconded the motion.

The PRESIDENT said that if Mr. Smith had been speaking of anyone else he would have ruled the remarks as out of order. Mr. Smith had accused him of saying what was untrue, knowing it to be untrue.

Mr. SMITH withdrew his remark, stating that the President had misunderstood what was said.

Mr. J. VINCENT BELL moved the previous question but as this was not seconded it could not be put, so he spoke on the motion, expressing his opinion that a few Members of the College on the Council would be useful.

The motion when put to the meeting was carried *nemine contradicente*.

Dr. W. G. DICKINSON moved:—

That this meeting regrets that the Council has omitted from its report any reference to the opinion of His Majesty's Government on the question of the representation of Members, and requests the President to supply the omission by communicating the same forthwith.

He wished to know why in the annual report the remarks made by the Lord President of the Privy Council to the deputation from the Council of the College had been omitted. He then read the answer given by the Lord President to the deputation of Members and asked why the Council could not also have published the answer which it had received. The Council said that it objected to politics but nearly every matter discussed in the Council was political. Many of the objections put forward by the Council were frivolous. At the present time a list of the Members of the College was kept and yet the difficulty of doing this was put forward as an objection by the Council to the representation of Members. No proof had ever been brought forward that the academic and scientific functions of the Council would be in any way interfered with by the admission of the Members to a share in the government of the College.

Dr. S. C. LAWRENCE seconded the motion. He suggested that the annual report should be distributed amongst all the Members of the College next year.

Mr. BROWN asked whether the President would make a statement.

The motion was put to the meeting and carried *nemine contradicente*.

The PRESIDENT explained that as no official letter from the Privy Council Office and no note from the executive of the Society of Members had been received by the Council of the College as to what took place at the interview between the Lord President and the deputation of the Society of Members, the Council of the College did not feel called on to supply any statement as to what occurred when the deputation of the Council was received by the Lord President. And he added that he as President would not give any "forthwith" reply to the resolution moved by Dr. Dickinson.

Mr. BROWN then moved:—

That this meeting notes with satisfaction that the Council intends to take a poll of the Fellows and Members on the whole question of admitting women to the Diplomas of the College and this meeting further urges that a similar course be taken with regard to the proposal for Direct Representation of the Members upon the Council.

He was sincerely glad of this determination of the Council, for it recognised the Members as part and parcel of the body corporate. He disapproved of the admission of women and he had little doubt as to the result of the poll. Women had nearly all the other examining bodies of the kingdom at which they could pass examination, therefore they could have no reason for wishing to come to the College. When this poll was taken it would be a simple matter to inclose a paper on which the Fellows and Members could express their opinion on the question of Direct Representation.

The motion was seconded by Mr. SMITH and it was carried *nemine contradicente*.

Mr. H. ELLIOT-BLAKE then moved:—

That this meeting requests the Council to add a hood to the gown already worn by Fellows and Members.

He pointed out that many other academic bodies, such as the Royal College of Music, had allowed their diplomates to wear hoods as well as gowns. He was proceeding to discuss the colour and design of the hood when he was reminded that it would be as well to obtain the hood before these other points were discussed.

Mr. BRINDLEY JAMES seconded the motion, remarking that he had been largely instrumental in obtaining the gown for the Members.

The motion was carried *nemine contradicente*.

Mr. ELLIOT-BLAKE proceeded to move the last proposition:—

That this meeting of Fellows and Members of the Royal College of Surgeons wishes the Council to report as to their willingness to join the Royal College of Surgeons and its work with the University of London (so as to form an Imperial University of London) and whether they will approach the Royal College of Physicians for a similar conjoint action.

The point of the whole matter was that they merely wanted an expression of opinion from the Council. The medical faculty of the University of London needed reorganising.

The PRESIDENT at this stage reminded the speaker that he would be compelled to close the meeting, a quorum no longer being present, unless the motion was put at once.

Mr. BRINDLEY JAMES seconded the motion which was carried.

A vote of thanks to the President for presiding followed.

19 Fellows, including 12 members of the Council, and 69 Members were present.

SAMARITAN FREE HOSPITAL.

A NEW operating theatre at the Samaritan Free Hospital was opened by Sir Frederick Treves, Bart., G.C.V.O., C.B., on Nov. 23rd. Erected on the top of the western portion of the building there is a spacious theatre with attached sterilising, anæsthetist's, and surgeon's rooms furnished with all the newest appliances. The theatre, which has an excellent northern light, was crowded by friends of the hospital, including Sir Dyce Duckworth, Dr. Percy Boulton, Captain Perowne, and Mr. Henry Owen.

The Rev. A. W. OXFORD, M.A., M.D., chairman of the managing committee, presided in the absence of Viscount Portman, the President of the hospital. He pointed out that not so very long ago all serious operations undertaken in that hospital were performed in wards containing one patient with whom a nurse was kept on continuous duty for 48 hours. Recently the hospital arrangements and those of the nursing had been reorganised and the new theatre was the culminating achievement of a complete revolution to modern methods.

Sir FREDERICK TREVES said he considered it a high honour to be asked to open that theatre. During the last 30 years the progress of surgery had been greater than the preceding generation of surgeons could possibly have dreamed of. Antiseptics and asepsis had revolutionised operations and it was by the scientific and practical work of Lord Lister that this change was rendered possible. In the progress to which he referred a pre-eminent factor was the perfecting of the methods of performing certain operations particularly associated with the Samaritan Free Hospital, in the carrying out of which that institution had undoubtedly played the leading part, and the name of T. Spencer Wells, as he was then called, would ever be most intimately connected with those important changes. In this hospital there had been a development of technique and of new methods far in advance of anything done before. Spencer Wells had a positive conviction that the views he advocated and the methods he proposed were right and he persevered in spite of censure, the criticisms of the public, and the obloquy of many members of his own profession, by whom his conduct was severely condemned. Yet he held on the course he had set himself and finally triumphed over all obstacles. Sir Frederick Treves wished to impress upon the younger generation the important part that this hospital had played in obtaining the successes of modern surgery. They could hardly believe how the whole surgical world had at one time hung upon the doings within its walls, had eagerly sought to know what were the latest instruments in use, the latest methods, and the latest records. Spencer Wells was worthily followed by Mr. Knowsley Thornton, Dr. G. Granville Bantock, Mr. W. A. Meredith, Mr. A. H. G. Doran, and Mr. J. D. Malcolm. When the history of surgery was written and its judgment was given the Samaritan Free Hospital would hold a foremost place in connexion with the modern development of abdominal surgery. He was proud to open this new theatre and he could wish the staff nothing better than that the reputation of the hospital in the future might be as great as in the past. He noted in the last report that in 437 operations, all of them serious, there had been only 17 deaths, and he wondered what the older surgeons would have thought of this. It was a record of which any hospital might be proud. He wished the staff God-speed in their work, in which all present would join.

In the evening the members of the managing committee and the staff of the hospital dined together at the Imperial Restaurant, Dr. Oxford again presiding.

The CHAIRMAN, in proposing the toast of "The Hospital," traced its history from small and not altogether reputable beginnings, and Mr. DORAN replied in a characteristic speech. The toast of "The Guests," proposed by Mr. W. R. FREEMAN, was replied to by Sir FREDERICK TREVES and by Sir DYCE DUCKWORTH.

Sir FREDERICK TREVES expressed the feeling that he had already said what he had to say about the theatre, which he considered it a high honour and a great pleasure to be asked to open. The members of the staff of that hospital were like a corps with banners flying to incite them to follow noble examples. If he were a young man he could wish nothing better than to belong to such a body and if anyone wished success to the Samaritan Free Hospital it was himself.

Sir DYCE DUCKWORTH expressed his gratification on being permitted to join in the ceremony of the day. He was able to recall most of those who had made that hospital famous and felt that Sir Frederick Treves had not said a word too much in extolling its merits and the pioneer work done in it. He was pleased to recognise on its staff his old fellow-student Dr. Percy Boulton, one of his first pupils in Mr. Alban Doran, and one of the best of his former house physicians in Dr. C. Hubert Roberts. He felt sure that with their splendid modern equipment the present staff would not fail to carry on and hand down the well-earned reputation of the hospital.

ASYLUM REPORTS.

Nottingham City Asylum (*Annual Report for 1906*).—On Jan. 1st, 1906, there were 790 patients (362 males and 428 females) on the books of this asylum. There were 150 cases (83 males and 67 females) admitted during the year, this admission-rate being above the average for the males and below for the females. The cases were of a particularly unfavourable character as to the prospect of recovery. With regard to the causes of mental disorder in those admitted, intemperance in drink heads the list, 35 cases (males 24 per cent. and females 22·4 per cent.) being due to this cause; mental stress and worry were responsible for 20 cases, and hereditary predisposition was ascertained to exist in 21 instances. The discharges during the year numbered 74 (43 males and 31 females), 52 were discharged as "recovered," three as "relieved," and 19 as "not improved." There were 80 deaths (42 males and 38 females), which gives a percentage of 10·07 on the average number resident in the asylum. General paralysis accounted for 21 of the deaths. The general health of the establishment has been good. A new dormitory and nurses' block have been opened, the latter being much appreciated by the nursing staff, as it is situated away from the wards. The usual papering and cleaning have been done and necessary repairs have been attended to, whilst new stabling for four horses has been erected on the farm. In the reports of the committee, the Commissioners in Lunacy, and the medical superintendent attention is drawn to the pressing need of increased accommodation in the asylum. Mr. Evan Powell points out that already the asylum contains 18 patients (four males and 14 females) more than there is suitable accommodation for. He also draws attention to the great accumulation of chronic bedridden cases in the female infirmary. A second dormitory has frequently had to be employed as a sick room and there is an increasing need for additional hospital provision. He also emphasises the fact, which so many medical superintendents are doing at the present time, of the increasing tendency of the authorities to send all imbecile and senile cases to asylums, whereas originally they used to be treated at home or in the workhouse.

Derby Borough Asylum (*Annual Report for 1906*).—On Jan. 1st, 1906, there were 317 patients (141 males and 176 females) on the books of this asylum. During the year 98 cases (46 males and 52 females) were admitted; of these 84 (44 males and 40 females) were chargeable to the Derby union and 14 (two males and 12 females) belonged to the private class. The medical superintendent, Dr. S. R. MacPhail, states that on the whole the character of the admissions was more hopeful than has been the case in recent years. There were fewer hopeless melancholiacs received and a fair proportion of acute curable types of mental disease and the number of senile dements showed a tendency to decrease. More than half the cases suffered from recognisable physical disease. In 37 cases hereditary predisposition was ascertained to be present and alcohol accounted for 13 cases, a much smaller number than usual. 47 patients were discharged during the year, 35 (12 males and 23 females) as "recovered"; six (two males and four females) as "relieved"; and six (two males and four females) as "not improved." The recovery-rate calculated on the total number of patients under treatment during the year was 8·43 per cent. as compared with 6·79 per cent., the average for all public asylums. The medical superintendent considers this to be a moderate recovery-rate, rather below the average in this asylum, as the number of recoveries on the male side was unusually small. Last year the highest proportion of recoveries obtained on the male side in the history of the asylum was reported, and this year the proportion is the lowest, while the mean of the two corresponds to the average recovery rate on the male side

since the asylum opened. 37 patients (19 males and 18 females) died during the year, but the causes of death were such as are common in all asylums and call for no special comment. The general health of the patients and staff has been satisfactory. The asylum branch of the Brabazon Society continues to be a great success. 40 or 50 patients attend the classes and the proceeds of the annual sale enabled the society to close the year with a small balance. The branch has now completed its fourth year of work and has been entirely self-supporting from the beginning. The farm and garden account shows a credit balance of £273.

James Murray's Royal Asylum, Perth (Annual Report for 1906–07).—This report is somewhat complicated owing to the fact that the statistical tables deal with the year 1906, whereas the physician superintendent's report refers to admissions, &c., from April 1st, 1906, to March 31st, 1907. We shall take our numbers from this report. On April 1st, 1906, there were 136 patients on the registers of this asylum. Dr. A. R. Urquhart, the physician superintendent, states that during the year 36 patients (19 males and 17 females) were admitted and of these 25 were suffering from physical diseases of a more or less severe nature. The average age on admission was 45·8 years (compared with 44·5 in 1906) and nine were over 60 years of age (compared with ten in 1906). The causes of insanity in those admitted were ascertained to be hereditary predisposition in 14, severe mental stress in six, and four belonged to families of neuropathic tendencies. 20 out of the 36 patients admitted were incurable, chiefly owing to advanced degenerative diseases of vital organs or congenital defects; the remaining 16 were of a more hopeful nature and recovered during the year. The general recovery-rate of the asylum in 1906 was 27·02 (21·05 for men and 33·33 for women) on the number of admissions. Last year the recovery-rate was 42·85. The percentage of deaths on the average number resident was 6·72, the actual number of deaths being nine, as compared with 12 in the previous year. Four died from general paralysis, two from heart disease, one from general tuberculosis, and two from influenza, the patients who died from the last disease being both over 70 years of age. The general health of the institution has been good with the exception of a severe epidemic of diarrhœa in the summer and an outbreak of influenza in the spring. The necessary papering and painting were attended to during the year and the whole drainage system was carefully tested. Dr. Urquhart makes reference to the Morison Lectures on Insanity which he delivered before the Royal College of Physicians of Edinburgh, abstracts of which have been published in THE LANCET.[1] With regard to the report of the year's work of the asylum the Commissioners both report that they found the institution in excellent order and in the highest state of efficiency, and Dr. J. Macpherson especially draws attention to the voluntary testimony of patients, whose mental malady predisposes them to fault-finding, of their happiness and contentment with their treatment and surroundings.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Nov. 28th, 1829.

THE SIAMESE YOUTHS.

Two boys, twins, united to each other by a mutual prolongation and union of the cartilages which terminate the breast bones, have been brought to this country from Siam for the purpose of exhibition. As there are few peculiarities, either of structure or habit, which there have yet been sufficient opportunities of observing, that have not already been made public by the daily press, we refrain from giving at present any description of this accident of nature. We may observe, however, that although these individuals possess qualities of a very interesting character, they are rather objects of wonder to the eye than to the mind, and are certainly more rare than curious.

ELECTRO-PUNCTURATION.

This operation certainly deserves more attention than has hitherto been bestowed upon it, in this country at least; especially as in many cases, which might be justly called *opprobria medicorum*, as chronic rheumatism, rheumatic paralysis, tic douloureux, &c., it has produced complete cures, after the ineffectual employment of various other methods.

A Prussian officer received a violent contusion at the right temple, which, after an active antiphlogistic treatment, left a paralytic affection of the eye, the globe and eyelids being completely motionless; the pupil dilated, sight considerably impaired, and sometimes double; at the same time, the patient suffered great pain over the orbit. The employment of many external and internal stimulants, and also of electricity, having been followed by no improvement, Dr. Graefe, of Berlin, first tried simple acupuncturation; a faint stream of electricity was passed into two needles, which had been horizontally inserted in the superciliar region; the strength of the electric current was gradually increased; two more needles were placed between the two lamellæ of the eyelids; and after nine weeks' treatment, small sparks were passed into the needles; from this time a very marked improvement took place; the motion of the eyeball and lids returned, vision became more and more distinct, and, after four months, the patient was completely cured. About a twelvemonth afterwards, he applied again to Dr. Graefe on account of the sight of the right eye having become slightly impaired; the use of electro-puncturation for six weeks, was sufficient to restore it as completely as before. Another officer had, in consequence of a severe cold, been affected with rheumatic pain in the left thigh, which ultimately produced complete lameness; issues, frictions, and a great many other remedies, having been used without any effect, four needles were plunged into the glutæus in a vertical direction, and electricity passed into them, first in a stream, then in sparks, which were ultimately made of a considerable power. After six weeks, the pain had disappeared from the upper part of the thigh, but had become more violent towards the nose; the use of electro-puncturation for three weeks was, however, sufficient to remove it entirely; and, at the time when the report was drawn up, the patient had for two years been in the continual enjoyment of good health.—*Graefe u. Walther's Journal.*

[1] THE LANCET, March 2nd (p. 572), 9th (p. 648), and 16th (p. 723), 1907.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7677 births and 4699 deaths were registered during the week ending Nov. 23rd. The annual rate of mortality in these towns, which had been equal to 14·6 and 14 8 per 1000 in the two preceding weeks, further rose to 15·3 per 1000 in the week under notice. During the first eight weeks of the current quarter the death-rate has averaged 15·2 per 1000, the rate in London during the same period being 14·3 per 1000. The lowest death-rates in the 76 towns last week were 4·6 in Hornsey, 7·3 in Leyton, 7·5 in Bournemouth, 7·8 in Reading, and 7·9 in Birkenhead; the highest rates were 19 6 in Liverpool and in Preston, 21·1 in South Shields, 22·5 in Rochdale, 24·0 in York, and 25·1 in Sunderland. The 4699 deaths in these towns during the week under notice were 162 in excess of the number in the previous week, and included 397 which were referred to the principal epidemic diseases, against numbers declining from 892 to 386 in the seven preceding weeks; of these 94 resulted from diarrhœa, 91 from measles, 76 from whooping-cough, 70 from diphtheria, 41 from scarlet fever, and 25 from "fever" (principally enteric), but not any from small-pox. No deaths from any of these epidemic diseases were registered in Bolton, Tottenham, Leyton, Plymouth, Walsall, or in eight other smaller towns; the highest annual death-rates therefrom were 2·9 in Ipswich, 3·7 in York, 3·9 in Burton-on-Trent, 4·2 in Barrow-in-Furness, and 6·2 in Merthyr Tydfil. The fatal cases of diarrhœa, which had declined from 660 to 118 in the seven preceding weeks, further fell to 94 in the week under notice, the highest death-rates from this cause being 1·7 in Rotherham, 1·8 in Oldham, 2·1 in Merthyr Tydfil, and 2·5 in York. The deaths from measles, which had been 85, 76, and 73 in the three preceding weeks, rose again to 91 last week, and caused death-rates ranging upwards to 1·3 in Coventry, 1·4 in Willesden, 1·6 in Rhondda, 1·7 in Barrow-in-Furness, 2·9 in Burton-on-Trent, and 3·4 in Merthyr Tydfil. The fatal cases of whooping-cough, which had been 54 and 69 in the two preceding weeks, further rose to 76 in the week

under notice; the highest death-rates from this disease were 1·2 in Wigan and in Gateshead, 1·3 in Aston Manor, 1·6 in Handsworth (Staffs), and 2·1 in Ipswich. The deaths from diphtheria, which had been 55 and 56 in the two preceding weeks, increased to 70 last week, the greatest proportional mortality being 1·2 in Rochdale and 2·0 in Devonport. Neither scarlet fever nor "fever" was excessively fatal in any of the large towns last week; of the 41 deaths from scarlet fever 18 occurred in London, five in Birmingham, and three each in West Ham and in Newcastle-on-Tyne. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had risen from 2658 to 5689 in the 28 preceding weeks, had declined again to 5686 at the end of last week; 597 new cases were admitted during the week, against 832, 667, and 636 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory system, which had been 204 and 251 in the two preceding weeks, further rose to 298 in the week under notice, but were 105 below the corrected average number in the corresponding period of the five years 1902–06. The causes of 49, or 1·0 per cent., of the deaths were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Nottingham, Salford, and in 48 other of the 76 towns; ten uncertified deaths were registered in Liverpool, four in Sunderland, and two each in London, Birmingham, Newcastle-on-Tyne, Gateshead, South Shields, Huddersfield, and St. Helens.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·3 and 15·9 per 1000 in the two preceding weeks, further rose to 16·7 per 1000 during the week ending Nov. 23rd, and was 1·4 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·0 in Paisley and 10·2 in Aberdeen, to 21·7 in Dundee and 29·3 in Greenock. The 579 deaths registered in these eight towns last week were 27 in excess of the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against 74 and 79 in the two preceding weeks; they included 33 which resulted from measles, 16 from diarrhœa, 12 from whooping-cough, seven from diphtheria, four from cerebro-spinal meningitis, two from scarlet fever, and one from enteric fever, but not any from small-pox. These 75 deaths were equal to an annual rate of 2·2 per 1000, which was 0·9 per 1000 above the mean rate last week from the principal epidemic diseases in the 76 large English towns. The fatal cases of measles, which had been 29 and 33 in the two preceding weeks, were again 33 in the week under notice, and included 16 in Glasgow, 11 in Dundee, four in Greenock, and two in Paisley. The deaths from diarrhœa, which had been 18 and 11 in the two preceding weeks, rose again last week to 16, of which 11 occurred in Glasgow and two in Edinburgh. The fatal cases of whooping-cough, which had been 14 and 12 in the two previous weeks, were again 12 last week, and included five in Glasgow, two in Edinburgh, and two in Aberdeen. The deaths from diphtheria, which had been five and ten in the two preceding weeks, declined again to seven in the week under notice, and included four in Glasgow. The fatal cases of cerebro-spinal meningitis, which had been four and five in the two preceding weeks, numbered four last week, and included three in Glasgow and one in Leith. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 90, 93, and 104 in the three preceding weeks, further rose to 106 in the week under notice, but were 33 fewer than the number in the corresponding period of last year. The causes of 11, or 1·9 per cent., of the deaths in these eight towns last week were not certified; in the 76 large English towns the proportion of uncertified deaths did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 22·8 and 21·4 per 1000 in the two preceding weeks, further declined to 18·4 per 1000 in the week ending Nov. 23rd. During the first eight weeks of the current quarter the death-rate has averaged 20·5 per 1000, the rates during the same period being 14·3 in London and 13·1 in Edinburgh. The 138 deaths of Dublin residents registered during the week under notice were 22 fewer than the number in the previous week, and included ten which were referred to the principal epidemic diseases, against 10, 12, and 11 in the three preceding weeks; they included seven which resulted from diarrhœa, two from "fever," and one from scarlet fever, but not any from small-pox, measles, diphtheria, or whooping-cough. These ten deaths were equal to an annual rate of 1·3 per 1000, the death-rates last week from the principal epidemic diseases being 1·3 in London and 0·8 in Edinburgh. The fatal cases of diarrhœa, which had been six, four, and three in the three preceding weeks, rose again to seven last week, while the mortality from "fever" was equal to that in each of the three previous weeks. The 138 deaths from all causes in Dublin last week included 27 among children under one year of age and 36 among persons over 60 years of age; both of these numbers showed a decline from the corresponding figures for the previous week. Eight inquest cases and seven deaths from violence were registered; and 57, or 41·3 per cent., of the deaths occurred in public institutions. The causes of eight, or 5·8 per cent., of the deaths in Dublin last week were not certified; in London only 0·1 per cent. of the deaths were uncertified, while in Edinburgh the proportion was 2·4 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of His Majesty's Order in Council of August 11th, 1903, Surgeon Charles James Boucher has been allowed to withdraw from His Majesty's Naval Service, with a gratuity (dated Nov. 23rd, 1907).

The following appointments are notified:—Staff Surgeon: A. Woollcombe to the *Argonaut*. Surgeons: C. V. Griffiths, R. Connell, and H. D. Drennan to the *Victory*; C. Ross and G. Price to the *Vivid*; C. R. M. Baker, H. M. Langdale, and W. Hutcheson to the *Pembroke*; and G. G. Vickery to the *Wildfire*, all additional.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Sir Augustus A. Brooke-Pechell, Bart., retires on retired pay (dated Nov. 23rd, 1907). Captain William W. Scarlett is placed on temporary half-pay on account of ill-health (dated Nov. 14th, 1907).

Captain H. R. Bateman has been appointed for special duty at the Royal Army Medical College. Major S. F. St. D. Green has been appointed to the medical charge of the Louise Margaret Hospital for Women and Children, Aldershot, vice Lieutenant-Colonel S. Powell. Lieutenant H. E. Gotelee has left Aldershot for Ceylon. Captain S. G. Butler has embarked for India.

SIR ALFRED KEOGH AT CANTERBURY.

At a largely attended meeting held at St. Margaret's Hall, Canterbury, on Nov. 14th, under the auspices of the Canterbury Detachment of the Royal Army Medical Corps (Volunteers), Sir Alfred Keogh, Director-General of the Army Medical Service, explained the new Territorial Army scheme. He pointed out that the importance of the present scheme was the idea of having a large consolidated corps for the whole country which would be called, he hoped, the Royal Territorial Medical Corps. The sanitary aspect would be considered, and it was intended to enrol sanitary experts into the corps who by their scientific knowledge would show them how to prevent the spreading of disease. For the purpose of having a thoroughly efficient Territorial Force it was proposed to mark the country into 11 areas, each one of which should raise its own medical service in proportion to the numerical strength of its Volunteer force. He emphasised the complexity of army medical work and its great importance and necessity.

EYESIGHT IN THE ROYAL NAVY.

It has been decided that at least three-fourths of normal vision is to be required of all candidates for the ratings of stoker petty officer, and the test is to be applied before a man is rated acting stoker petty officer or stoker petty officer. It has further been decided that full normal vision is to be required of all candidates for the rating of mechanician. The test for these ratings is to be applied to all stoker petty

officers who have been provisionally selected for the mechanician course on their being finally recommended for that course. If the candidate is found not to possess full normal vision he will be disqualified for mechanician, but if he possesses three-fourths normal vision he may still be confirmed as stoker petty officer. If, however, he does not possess the above qualifications he must revert to leading stoker. With regard to candidates now undergoing the mechanician course, and also to those men who have already received the ratings of acting mechanician, it has been decided that the eyesight test is not to be applied.

PAYMENT OF OFFICERS ON SPECIAL DUTY.

The Secretary of State for India has decided that an officer who is ordered to Europe for the purpose of acquiring professional information, or on special duty, or who, under the orders of the Secretary of State for India is detained on duty while on leave in Europe, is entitled to Indian pay and half-pay for the actual period of duty, while in the case of an officer ordered to Europe on duty the period includes the voyages to and from Europe. The rate of pay to be allowed is irrespective of the subsistence allowance that may be granted when an officer is placed on duty which necessitates travelling or detention at a distance from his ordinary residence.

THE VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

Surgeon-General Sir Alfred Keogh, K.C.B., Director-General of the Army Medical Service, will inspect the Volunteer Ambulance School of Instruction and present the prizes at 8.45 P.M., on Dec. 9th, at the headquarters of the London Rifle Brigade, 130, Bunhill-row, E.C.

THE PATHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

On the invitation of the Army Council the next meeting of the Pathological Society of Great Britain and Ireland will be held in the pathological laboratories of the Royal Army Medical College, Millbank, London, on Friday and Saturday, Jan. 3rd and 4th, 1908.

THE NEW TERRITORIAL FORCE.

Surgeon-General Sir Alfred Keogh, K.C.B., Director General of the Army Medical Service, will visit Plymouth on Thursday, Dec. 5th, and give an address on the subject of the new Territorial Force.

The *Broad Arrow* states that Colonel G. D. Bourke, C.B., R.A.M.C., has been selected to succeed Surgeon-General J. D. Edge, C.B., R.A.M.C., as principal medical officer, Irish Command, next May.

Correspondence.

"Audi alteram partem."

THE GARDEN CITY ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—The council of the Garden City Association feel that the time has come when they may confidently appeal to the public for further support for their work. Since the association was started in 1899 to carry out the principles advocated in Mr. Ebenezer Howard's book, "Garden Cities of To-morrow," those principles have received wide recognition in every part of the world. Letchworth, the first garden city, the first outcome of the labours of the association, has become an established fact, and many smaller schemes on similar lines have been started throughout the country. Applications for advice and assistance come from all parts of the United Kingdom and also from abroad from those who are desirous of building, planning, and developing on right lines.

The association is prepared to support all schemes whose aims properly come within the wide scope of its objects. Recently a large amount of work has been done in the direction of educating public opinion on town planning, and the conference on Oct. 25th last at the Guildhall under the presidency of the late Lord Mayor, Sir William Treloar, has received the highest commendation from many quarters. The work of collecting information on this important subject, of issuing pamphlets and arranging lectures and meetings, largely increases the work of the association, and the very success achieved makes it imperative to appeal to a wider field of support. It is necessary to raise at once the sum of £500 to place the work on a satisfactory basis, and we wish to appeal to those interested in the welfare of our towns and of the country at large for this sum.

Additional annual subscribers are also wanted to maintain the enlarged scope of work, and donations or subscriptions will be thankfully received at the offices, 602, Birkbeck Bank Chambers, Holborn, W.C., where all information may be obtained.—We are, Sirs, yours faithfully,

RALPH NEVILLE, President.
EDWARD SOUTHWARK.
JAMES CRICHTON-BROWNE.
H. RIDER HAGGARD.
EWART G. CULPIN, Secretary.

"PRO HISTORIA MEDICINÆ."

To the Editors of THE LANCET.

SIRS,—Owing to absence from Perugia I have only now seen THE LANCET of Oct. 19th, and in consequence of a reference to myself in your Italian correspondent's letter on p. 1127 it becomes necessary for me to offer a few words of reply. From the statements made in that letter it would appear that in reading a paper before the Italian Society for the "Storia Critica della Medicina" I spoke against vaccination and that Professor Giacosa of Turin came forward as my antagonist on this question. This, however, is not quite in accordance with the facts. My objects in dealing with the history of the English Vaccination Acts were (1) to argue that the medical profession ought not to encourage or countenance legislation on any medical subject which is not quite clear in a scientific sense and entirely free from obscurity; and (2) to remark that we Italians can understand a general compulsory vaccination law but cannot understand a "conscience clause." A compulsory vaccination law aims at immunising the whole population of the particular country, and everyone must conform to it, not for the sake of his own health, of which he is sole master, but because if not immunised by vaccination he would be liable to contract small-pox and in that way to become a danger to others. Now, the "conscience clause" is quite contrary to this principle on which the compulsory law is founded, and it is absurd to have on one hand compulsion and on the other hand the "conscience clause." Certainly the "conscience clause" would not have been introduced if the general question of Jennerian vaccination was scientifically quite clear.

Professor Giacosa and all who were present at the meeting quite agreed with what I said, but it happened that a discussion arose on the interpretation of the word "critica" in the designation of our "Società Critica della Storia della Medicina." This discussion was very long, particularly because Professor Giacosa and I held different opinions with regard to this interpretation. I have seen it reported in several medical journals that I spoke in favour of anti-vaccination and that Professor Giacosa spoke against my views. Taken generally, these statements are not to me a matter of much concern, but it is different for THE LANCET, and I therefore beg of you the favour to correct the error which your correspondent has involuntarily committed, like many others.

It is true that I am quite against every kind of Jennerian vaccination, whether compulsory or not, but nevertheless at the meeting of the "Società della Storia Critica della Medicina" I did not speak on the subject—I only made a history of the English Vaccination Acts.

I am, Sirs, yours faithfully,

Università degli Studi di Perugia, Nov. 11th, 1907. C. RUATA.

THE UNIVERSITY OF LONDON AND THE ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

To the Editors of THE LANCET.

SIRS,—I am directed, in view of recent correspondence, to inform you that on April 22nd, 1907, a letter was addressed to the Vice-Chancellor of the University of London by the treasurer of St. George's Hospital, of which the following is the concluding paragraph:—

The Board [of Governors of St. George's Hospital] is of opinion that any departure from the settled policy of the University in the matter of the erection of a third centre in the immediate neighbourhood of the

Imperial Institute would be a grave breach of the contract entered into between the University and this hospital, and they feel assured that the Senate will refuse, when all the facts are considered, to countenance any such breach of faith.

This letter was acknowledged, and since that date the Senate has fully considered the whole matter and has arrived at the conclusions which have already been communicated to the press. These conclusions were forwarded to St. George's Hospital with the statement that, while the Senate regret any inconvenience that may be occasioned to St. George's Hospital Medical School by the decisions at which the Senate have been compelled to arrive, they cannot accept the interpretation of their action as set out in the last paragraph of the letter of April 22nd which was addressed to the Vice-Chancellor. The receipt of this letter has been acknowledged with an expression of regret at the decision arrived at by the Senate.

I am, Sirs, yours faithfully,

ARTHUR W. RÜCKER, Principal.

University of London, South Kensington, S.W., Nov. 26th, 1907.

[INCLOSURE.]

OFFICIAL STATEMENT FURNISHED TO THE PRESS ON NOV. 20TH, 1907.

A report was received from the committee specially appointed to advise the Senate on the course to be pursued in regard to the proposed Institute of Medical Sciences. The committee came to the following conclusions:—

(*a*) That, owing to the lack of adequate financial support, the scheme for the establishment of an Institute of Medical Sciences, as set forth in the original appeal, and (in a modified form) in the appeal of June, 1905, has proved abortive;

(*b*) That, apart from the money difficulty, which in the opinion of the committee is of itself fatal, the scheme has also become impracticable for other reasons. The Medical Faculty, which formerly reported in favour of the scheme, has now reported against it. Several of the medical schools have changed their opinions in the same sense, and some of them have made arrangements involving considerable outlay for providing more efficient instruction in preliminary and intermediate medical studies;

(*c*) That, in the above circumstances, the University has no claim to the money which has been already paid by subscribers, or to the fulfilment of promises by subscribers who have not yet paid their subscriptions; and

(*d*) That, in the absence of any special directions in any particular case, all subscriptions already paid ought at once to be returned to the donors (including in that term the executors or legal representatives of deceased donors without any suggestion as to any possible application of the money to any other purpose.

The Senate consequently resolved to communicate with the donors to the Medical Institute Fund in accordance with these conclusions, informing them that the money paid would be held at their disposal.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 16th a letter was published from Mr. Leonard Hill in which certain statements concerning this medical school were made. Mr. Hill's letter was written in connexion with the recent election to the Senate of the University of London, and in order to correct the false impression which Mr. Hill's statements were likely to produce I sent a copy of the inclosed reply to each member of the Faculty on the eve of the election. As, however, Mr. Hill's letter will not only have been read by those immediately interested in the Faculty election but by the profession at large, I should esteem it a great favour if you could give through your columns the same publicity to my reply.

I am, Sirs, yours faithfully,

E. I. SPRIGGS,

Dean of the Medical School, St. George's Hospital.

Nov. 25th, 1907.

[COPY.]

St. George's Hospital, S.W., November 18th, 1907.

In the latest issues of THE LANCET and the *British Medical Journal* Mr. Leonard Hill asks the following question: "Do St. George's and St. Thomas's propose that the University should prepare students for the examinations of the Conjoint Board?"

One of the original conditions laid down in the report from the "Concentration" Committee to the Faculty of Medicine for the School of Preliminary and Intermediate Studies in the near neighbourhood of the University was:—

> "That provision is made for teaching all classes of medical students, whether preparing for the examinations of the University or for those of other qualifying bodies, so that any existing school of the University should be able at once to abandon altogether the teaching of the subjects provided for at the new school."
>
> [Report from "Concentration" Committee, Faculty of Medicine, Dec. 13th, 1901, page 7 (*b*)].

Mr. Leonard Hill also points out that in the Calendar of the University (1906–7) the Preliminary Scientific students of St. George's Hospital number two. This statement in the Calendar is, however, a misleading one, for in 1906–7 there were no students working at the hospital for the Preliminary or Intermediate examinations of any qualifying bodies, as all had been transferred to King's and University Colleges a year before, in October, 1905. The number of students who have been so transferred from St. George's Hospital is 33. All these would have been sent to an institute at South Kensington had such been available. Further, Mr. Hill suggests that the students sent to this institute would be charged £20 per year, and concludes that the combined income from St. George's and St. Thomas's students would be only £360 per annum. The fee paid at this hospital by students doing anatomy and physiology is 30 guineas per annum; £26 5s. is charged for the Preliminary Scientific course of the University of London, and 20 guineas for that of the Conjoint Board. The sum paid in fees to the University in 1905–06 from St. George's Hospital students was over £500 instead of the £80 per annum allowed for in Mr. Hill's estimate.

Mr. Hill also assumes that a student would only stay at the institute two years. Under the present regulations it would be difficult for a man to pass his intermediate examination in less than three years from commencing his medical studies.

E. I. SPRIGGS,

Dean of the Medical School, St. George's Hospital.

To the Editors of THE LANCET.

SIRS,—I do not think it is necessary to reply at length to the letter from the authorities of St. George's Hospital Medical School which appeared in your issue of Nov. 23rd. Your correspondents were instructed to "take no steps unless [they] were assured that a third centre was to be erected in the immediate future in the near neighbourhood of the University." As I have already shown, they failed to make this clear to the University representatives. Had they done so we should at once have refused the necessary assurance. They also took no steps to include that assurance in the agreement with the University. There is, therefore, no question of a breach of faith on the part of the Senate.

They now fall back upon the general conversation which took place and in particular upon a phrase, which may have been used by one of us, to the effect that it was the "settled policy" of the University to establish a third centre. They themselves point out that we had given every proof of *bona fides* by raising money for that specific object. It was the intention of the University to establish such a centre. Unfortunately circumstances have arisen which, in the opinion of the Senate, make it impossible to carry that intention into execution. Thus, no question arises of a breach of faith or of avoiding moral responsibilities. The dispute is narrowed to a difference of opinion as to whether it is possible for the University to carry out the original intention to which its "settled policy" was directed. In discussing this question it is in the first place necessary to make clear what that original intention was.

The first scheme contemplated the erection of buildings at the cost of £160,000 and an annual expenditure of £19,500. At a later date it was estimated that the cost of building and equipping the institution on a reduced scale would be £130,000. The sum raised is little more than half the reduced estimate for buildings and equipment. It cannot be honestly said that on this capital it is possible to establish an institute such as that for which the subscriptions were given. It would have been a real "breach of faith" with the subscribers to attempt it. If the St. George's delegates do not agree in this view I can only regret the difference of opinion.

For the rest, I have not expressed in public any opinions on the matters at issue other than those forced from me in this correspondence. I was told that it was being stated that I was present when certain pledges were given. I handed my repudiation of that statement to Mr. Leonard Hill and wrote to Professor Starling, who I understood more or less accepted the statement, to tell him what I had done. In that repudiation I was dealing with a matter of fact, not of opinion. I have therefore written this letter as a witness to facts in my personal capacity, and having shown that the real controversy is about matters of opinion I shall take no further part in the correspondence.

I am, Sirs, yours faithfully,

ARTHUR W. RÜCKER, Principal.

University of London, South Kensington, S.W., Nov. 26th, 1907.

THE NEEDS OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—In my letter of Oct. 26th I ventured to point out two matters concerning which I thought it incumbent upon the Senate of the University of London to take action. One was that the medical degrees of the University should be rendered accessible to all London medical students; the other, that a certain sum of money, which had been obtained for a specific purpose, should be returned rather than devoted to another purpose. The latter step has now been taken and the ground is clear for the adequate consideration of the former. With regard to this you have published several

interesting letters and I may add that some prominent members of the profession have spoken to me in the same general sense. The one serious objection is that voiced by Dr. A. Percy Allan in your issue of Nov. 9th. With regard to this I must freely concede that to grant the London degree *tout court* to all Conjoint diplomates would be an injustice to those who have passed the multiplicity of examinations now entailed in that degree. But I would submit that it will be quite easy to earmark the degrees—either along the lines suggested by Sir William Gowers or by calling the present M.D. M.D. Honours—in such a way as to point out the distinction, while at the same time removing the handicap which our London students have as compared with those in the provinces.

The Royal Colleges alone have neither the power nor, I believe, the desire to grant medical degrees. If these are to be accessible to all London students either the London University must render them so or a new university must be called into being. The latter course would be difficult and expensive; for the former all the materials are ready to hand in the shape of a University which can grant degrees and a Conjoint Board success in whose final examination is justly considered the standard English qualification to practise. If the coöperation of these bodies could be secured the London medical student would receive a full return for his industry and the London medical schools would no longer be depleted by provincial competition. In common fairness, too, the degree should be given, so to speak, retrospectively, to all Conjoint diplomates who had studied for, say, four years in London and who should pass an examination on the lines of the M.D. Durham (Practitioners).

If there is to be any chance of carrying through this reform united action must, as Mr. R. Denison Pedley remarks, be taken by those whom it would benefit. If a committee is formed for the purpose the Conjoint diplomates will, I think, be both surprised and pleased to find how many of the teachers in the medical schools of London will be willing to help them.

I am, Sirs, yours faithfully,

London, W., Nov. 25th, 1907. BERTRAM ABRAHAMS.

To the Editors of THE LANCET.

SIRS,—At the meeting held this afternoon at the Royal College of Surgeons sufficient emphasis did not seem to be placed on the suicidal policy of the Royal Colleges in not doing something to improve the status of their diplomates in the face of the multiplication of degree-granting bodies in other parts of the United Kingdom. If opposed to any alteration respecting their existing Members and Licentiates they should not therefore neglect the future, otherwise London, which ought to be far ahead, will find itself in time left behind in the race as far as medical students are concerned. The Council object to raise the standard of either the preliminary or intermediate science part of their examinations, giving as a reason that the changes already made have led to a diminution of candidates. But is this not as much due to the loss of attraction in the diplomas compared to the degrees to be got elsewhere, and would not an improvement in the status of the diploma be a counter attraction leading to an increase instead of a diminution of candidates for the Conjoint? I fear the teachers in the London schools of medicine as well as the Council are short-sighted.

I am, Sirs, yours faithfully,

Nov. 21st, 1907. MEMBER.

To the Editors of THE LANCET.

SIRS,—Mr. R. Denison Pedley in THE LANCET of Nov. 16th, p. 1420, makes a very common error which should, I think, be corrected. He states that "the Conjoint Board can at any time help" its diplomates to obtain the title of "doctor," by which he presumably means the degree of M.D. If he reads the charters of the two Royal Colleges he will find that this is not the case; indeed, for the Colleges to confer the degree of M.D. an Act of Parliament would be necessary. There are only two bodies which can give degrees, the Universities and the State, and, in addition, the Archbishop of Canterbury, by right of his remnant of Legatine authority, can recommend the Crown to confer degrees, a right which, save in the Faculty of Divinity and Music, is not now exercised. Should fresh legislation take place on the subject, as is to be hoped, I think most of us are agreed that it would be desirable to introduce the "one-portal" system of a State M.D. conferred by the different examining bodies under State control, but as the law stands this is, of course, impossible. I should like to add that I think your correspondent overstates the grievance of the College diplomates. If they wanted a degree they should have taken the London course, but as both a London graduate and a College diplomate I can testify that they would have had to work considerably harder for the two letters than for the eight. I should personally, however, welcome any legislation which would restrospectively confer a doctorate on my fellow collegiates, as this would obviously do much to promote good feeling in the profession, which is more to be desired than many titles.

I am, Sirs, yours faithfully,

Nov. 25th, 1907. M.B., L.R.C.P.

THE UNIVERSITY OF LONDON GRADUATES' ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Referring to the London Graduates' Union in your last issue you say that you are informed that the London University Graduates' Association "has constituted itself into an association for promoting the election by convocation to the Senate of candidates representing the views of external students alone and of opposing the election of any recognised teacher." Both these statements are false.

As the editor of a medical journal myself, I am perfectly aware of the difficulty of keeping *au courant* with medical and university politics, and of the error one sometimes falls into in accepting statements on questions one has not had the time or opportunity of mastering, but I hope in justice both to the Union and the Association you will allow me to put this matter right. For while it is clear that a mis-statement of this character is calculated to damage the Graduates' Association, it is clearer still that an untrue statement of this kind must be still more damaging to the Union, on the behalf of which, presumably, it has been made public.

Being secretary of the Medical Faculty of the London University Graduates' Association, it has been my duty to promote the election of two candidates for the Senate, one successfully the other unsuccessfully; and I was under the impression that the names of these two gentlemen, Dr. Graham Little and Professor Ernest White were sufficiently well known to make the statement of your misinformant ludicrous. However, I suppose it is necessary, since the statement has been seriously put forward, that I must point out that Dr. Graham Little is a member of the Faculty of Medicine of the University of London, and as physician attached to St. Mary's Hospital (London University), is an internal teacher. Professor Ernest White is also a member of the Faculty of Medicine of the London University, and what is still more remarkable in the face of the above allegation, is actually a professor in one of the colleges of the London University, holding the chair of Psychological Medicine at King's College.

After this statement it scarcely seems worth while to rebut the mis-statement that our Association exists "for promoting the election by convocation of candidates representing the views of external students alone," which is equally stupid and untrue. We do, however, think that external students have a right to representation on the Senate. Does the Union differ from us in this respect?—Yours faithfully,

2, Hare Court, Temple, Nov. 24th, 1907. A. PERCY ALLAN.

*** We do not find the difficulty which Dr. Allan experiences in understanding medical or university politics, nor do we believe that rudeness helps much in a controversy.—ED. L.

PLEURAL EFFUSION AND ITS TREATMENT.

To the Editors of THE LANCET.

SIRS,—Sir James Barr in the Bradshaw lecture on Pleural Effusion and its Treatment, reported in your journal of Nov. 9th, expresses himself very unfavourably on the present surgical treatment of empyema of the thorax: he says that the surgeons have taken this disease under their own special care but have done nothing to advance its treatment. He adds that he is anxious that they should remove "this blur from their fair escutcheon," and very considerately gives them details of a new operation which he would do if he were a surgeon. I think that the choice of the word "blur" was

unfortunate, because, as the eminent physicist in question must know, blurring is very often due not to any indistinctness in the outlines of an object but to a defect in the accommodation of the observer. Might it not be caused in some cases by a kind of mental presbyopia?

I am not clear as to what exactly are the points on which he condemns the surgical treatment of empyema: whether it is the mortality of the operation, the length of the after-treatment, or the fact that surgeons like free drainage. If I might criticise his own suggestions for the cure of this disease I should draw attention to the following points:—Firstly, as to the use of local anæsthesia, Sir James Barr is surely aware that many surgeons, both in this country and abroad, make use of this method; the objection is, in the case of adults, the difficulty of anæsthetising the sensitive periosteum on the deep surface of the rib; in children the fact that to them the operation itself is quite as terrible as the pain. As to making the incision at the most dependent spot, surgeons, of course, universally do so, but with this reservation (which should surely have occurred to a physicist), that after evacuation of the pus the diaphragm at once rises up and blocks the drainage aperture if it is placed too low. His method of draining by gauze has been frequently tried, mostly by house physicians, and has been given up: dry gauze may make an excellent drain; gauze soaked in pus certainly has the opposite effect, blocking up any aperture in which it is placed. I believe the time-honoured attempts to inflate the lung by expiratory efforts, such as blowing into bottles, are harmless in mild cases but also unnecessary; in cases of empyema of old standing their effect, if any, must be harmful. Every surgeon who has performed Schede's operation for decorticating the lung knows that as soon as the thickened pleura is incised the lung bulges out through the hole; till the lung is freed from this rigid casing the probable effect of expiratory efforts would be to cause an emphysema of the sound lung.

Finally, I would respectfully suggest to Sir James Barr that little will be accomplished towards the placing of the treatment of this disease "on a scientific basis" (like Mesopotamia, a phrase full of comfort) by making indiscriminate attacks on surgeons.

I am, Sirs, yours faithfully,

Nov. 22nd, 1907. GRAHAM SIMPSON.

To the Editors of THE LANCET.

SIRS,—May I be permitted to point out that in his recent Bradshaw Lecture[1] Sir James Barr uses the term "elasticity of the lungs" in a manner likely to cause confusion in the minds of some of his readers. Thus he says: "In health there is a slight negative pressure in the pleuræ owing to the elasticity of the lungs," and again "the elasticity of the lungs tends to separate the pleural surfaces." By pulmonary "elasticity" Sir James Barr here evidently means the pull which the lungs exert on the pulmonary (visceral) pleuræ—i.e., their degree of tautness or stretchedness—and not (what the term actually signifies) their power of recovering their form after being stretched. The elasticity and the tautness of a substance are two quite different things.

It is the more necessary to distinguish between these two properties in dealing with the subject of pulmonary physics, because—and this is a point which is apt to be overlooked—the elasticity and the tautness of the pulmonary tissue by no means necessarily rise and fall together. It is possible, indeed, for the pulmonary tissue to be very much on the stretch and thus to exert an unusually powerful pull on the pleural covering of the lungs, with a corresponding high degree of minus intrapleural pressure, when the elasticity of the lungs is very much subnormal. This happens, e.g., when, with the lungs abundantly seamed with fibrous tissue in a state of cicatricial contraction, there is at the same time marked dyspnœa. In such cases a struggle ensues between the contracting cicatricial tissue tending to a diminution in the size of the thorax, and the powerfully acting inspiratory muscles ever striving to effect an increase in the mean size of the thorax. In the struggle between these opposing forces victory may belong to the one or the other set, with the result that the thorax suffers a decrease or an increase in its mean size, but in either case the elasticity of the pulmonary tissue is considerably subnormal, while the minus intrapleural pressure is greatly exaggerated (I am assuming the pleuræ are not adherent).

Another term employed by Sir James Barr invites criticism. He speaks of the lungs as exerting "*traction* on the thoracic walls" (my italics). Presumably by "thoracic walls" Sir James here means the pleural lining of the thoracic walls and the parietes external to this lining, though of this I am not sure, because in a later passage he says, referring to the two layers of the pleura, that there is "no traction but perfect equilibrium" between them. The use of the word "traction" in this connexion reminds me that I was once taken to task by a physicist for speaking of the lungs as exerting traction on the circumjacent structures. His point was that they could not be said to exert traction on these structures unless anatomically attached to them. This suggested to me the use of the term "pulmonary suction," a term which brings forcibly home to the mind (what I, at least, conceive to be) the essential purpose of pulmonary tautness—i.e., to exercise suction on the exterior of the heart and thus facilitate the diastole of its chambers, especially of the auricles, and the right auricle the more especially: pulmonary suction, in fact, sucks blood into the heart. *Cæteris paribus* it varies directly as pulmonary tautness, but has no constant relation to pulmonary elasticity.

I am, Sirs, yours faithfully,

Wimpole-street, W., Nov. 21st, 1907. HARRY CAMPBELL.

[1] THE LANCET, Nov. 9th, 1907, p. 1291.

A FORM OF GRAVES'S DISEASE AND ITS TREATMENT.

To the Editors of THE LANCET.

SIRS,—I do not think that the experience of Mr. H. Granger in the cases of Graves's disease, as recorded in THE LANCET of Nov. 23rd, is uncommon; nor am I sure his deductions as to cause and treatment are correct, or even that his cases at Bournemouth constitute a form of the disease separate from those elsewhere. I take it he has come across a run of mild cases which have put him on the look-out for others, and he has found still milder ones, or even cases which have not reached the stage of Graves's disease at all but are potential ones, tottering into the disease and only needing a helping hand in either direction. If they had been sought for as diligently they would have been found in a London hospital. He will also find them not uncommon over 35 up to the climacteric, at which age there are many. I do not find his evidence as to water causation borne out by my cases; in this district the greater number of houses are supplied by surface wells in the gravel, but the town in which I live has an additional supply brought from the greensand 12 miles away. Yet I find instances from people who live in houses supplied by each source and, I should judge, in equal proportions. Mr. Granger thinks a course of thymus has been instrumental in his cures. Thymus gland has been tried before and found wanting. It is a tempting theory that because in fatal cases the thymus has been found persistent Nature has tried her own remedy but has not given enough of it, and therefore we must aid Nature. Unfortunately, the facts do not fit in with the theory; Mr. Granger has been successful not on account of the thymus but the sauce he gives with it. May I suggest he should try a series of cases without the thymus but "combined with as much rest as possible and attention to general hygiene." For I note that he has ascertained they are "all thin anæmic women with a history of long-continued worry in many instances." If to another series of cases he will give in addition a little arsenic and bromide with perhaps phosphates I think he will find the latter series make even greater advance. He will, in fact, come to believe that the worry is the cause of the whole thing and the relief they get from this determines their cure. Graves's disease is, indeed, a nervous disease, in that many patients are always on the verge of it and they only need the nervous strain, often prolonged and borne with such secrecy that it is only after they are better they will describe the mental anguish they went through to fall into it. A girl had nursed her father through diabetic gangrene; some months after his death she developed Graves's disease. From previous experience I was convinced she had some mental worry, but she would own to nothing. For some time she was at a standstill, until one day I noticed she was in the same room in which her father died; at his death she had gone to sleep with her mother. I had her room changed and improvement began; subsequently she told me my guess had been correct, but it seemed such a silly thing that she had determined to fight it down.

The idea that behind the symptoms of the disease, the

over action of the thyroid, and persistence of the thymus, lies a nervous cause is an unpopular one at present, though I believe it must become prominent again. I first put forward this idea in an M.D. thesis two years ago and since then many instances have further strengthened my conviction. But to recapitulate my arguments now would lengthen my letter too much. I would point out, however, that the psychic symptoms always precede the physical, and throughout the disease are only an exaggeration of those normally present in the patient. The strongest argument against my contention is the undoubted good results of operation, especially those of Kocher. In answer to this I will bring one instructive case: the patient, married at 19 in 1901, had a child in 1902; in July, 1905, she had the left lobe of her thyroid removed at another hospital, from her own account for simple enlargement without evidence of Graves's disease. In May, 1906, she came as a hospital patient to me with enlargement on the the right side and all signs of Graves's disease; for some months she had nursed her mother, who had died in December, 1905, from cancer, and she dated her illness to the anxiety at that time. Under phosphates and arsenic, with directions as to rest, she was well in a few weeks, became pregnant, and continues well after the birth of a child in April last. If there were not symptoms of Graves's disease at the operation this did not prevent the subsequent appearance of the disease, and surely if the operation is a perfect cure it should prevent its oncoming. While if there were already symptoms of the disease at the operation she had a definite recurrence but got well under medical treatment. Operation acts by suggestion on a nervous chain from which the thyroid, &c., depend, and its success or failure is in proportion to the strength of the suggestion.

Mr. Granger has carefully noted the "tired aching feeling in the throat." It is a symptom unnoticed by the text-book writers on the disease, but it is practically always present in the early stages, and often is the only symptom these patients complain of. There is usually a fine tremor to be found as well. Many patients have it repeatedly after a period of anxiety. Since several in my experience have eventually developed the disease more fully, I always look on these as potential cases of Graves's disease. It is doubtless a form of the globus hystericus. When I wrote my thesis I described it as a new symptom of the disease, but I have since found casually that Graves himself has fully described it (*vide* Graves, New Sydenham Soc., Vol. II., p. 222). I can only imagine that this symptom has been missed because text-books are written from well-marked cases, while the slighter and early cases have been unrecognised.

If Graves's disease is recognised early and treated on a purely nervous basis, as an overstrain of one part of the nervous system, improvement comes at once; when the disease has existed for some time and the nervous system has generally run riot, the same treatment improves matters at once, but recovery will be slower.

I am, Sirs, yours faithfully,

W. REGINALD GROVE, M.D. Cantab.,
Honorary Medical Officer, Huntingdon County Hospital.

St. Ives, Huntingdonshire, Nov. 23rd, 1907.

THE TREATMENT OF CHRONIC PROGRESSIVE DEAFNESS BY OPERATION.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 23rd Mr. F. Faulder White reopens the subject of the Treatment of Chronic Progressive Deafness by Operation and cites cases illustrative of his contention that removal of the membrana tympani and malleus acts as a salutary operation.

Having taken very considerable interest in this subject for a number of years, and having operated on a number of cases of advanced deafness due to chronic hypertrophic middle-ear disease, I trust you will permit me to state my experience. In the first place, cases of true oto-sclerosis are entirely unsuited for any intrameatal operation. As has long since been pointed out by Politzer,[1] Katz,[2] Denker, and others, true oto-sclerosis is pathologically a primary inflammation of the labyrinthine capsule and is characterised *inter alia* by the deposition of new bone in the region of the stapedio-vestibular articulation with subsequent "stapes-ankylosis." No operation upon the membrane and malleus can in such circumstances have any possible value, nor should it, in my judgment, ever be attempted. At one time I must confess to having had hopes that intrameatal operations might have some effect in relieving cases of chronic dry middle-ear catarrh. Subsequent experience of such operations has, however, I regret to say, dispelled any such hopes. The cases upon which I have operated—ten in all—have not been in any way permanently relieved, either as regards hearing or as regards that most distressing of symptoms, tinnitus. Were the pathological changes confined to the membrana tympani and to the malleo-incudal joint theoretically improvement should result. Unfortunately, however, such changes rarely, if ever, are. The whole mucous membrane of the middle-ear tract participates in the hypertrophic process, with the result that "stapes-ankylosis" of a dense fibroid type is induced along with similar changes in the membrana secundaria, the Eustachian tubes, &c.

In Mr. Faulder White's series of 12 cases there is an unfortunate lack of scientific accuracy and the omission of exact tuning-fork, watch, and acoumeter tests detracts very considerably from the value of his communication. Considering the general scepticism of otologists as to the value of intrameatal operations in such cases the more fully the results of such experimental procedures are recorded the better. Mr. Faulder White's enthusiasm in the cause of intrameatal surgery is so well known but so little supported by otologists in general that his want of definite data are all the more regrettable. It is quite possible that in the future some *modus operandi* may be found which will confer a lasting benefit upon persons grievously afflicted with progressive dry middle ear catarrh, but at the moment, despite Mr. Faulder White's pronouncement upon the subject, I venture to think that it will have to be a measure somewhat more salutary than the intrameatal removal of the membrana tympani and the malleus.

I am, Sirs, yours faithfully,

Manchester, Nov. 25th, 1907. WILLIAM MILLIGAN.

[1] Zeitschrift für Ohrenheilkunde, vol. xxv.
[2] Deutsche Medicinische Wochenschrift, 1890.

TERRITORIAL FORCE SCHEME: MEDICAL COÖPERATION.

To the Editors of THE LANCET.

SIRS,—In continuation of his series of addresses to medical men Sir Alfred Keogh, K.C.B., K.H.P., M.D., Director-General Army Medical Service, has kindly consented to address such a meeting at the Athenæum, Plymouth, at 5 30 P.M., on Thursday, Dec. 5th, at which Mr. Paul Swain, F.R.C.S., will preside. The meeting will be followed by a subscription dinner at the Royal Hotel, for which tickets will be 5*s.*, exclusive of wines.

It is hoped that there will be a large attendance of the members of the profession resident in West Devon and Cornwall. Should any have been overlooked in issuing the circular of invitation they will, nevertheless, be heartily welcomed. Applications for dinner tickets should be made to me not later than Tuesday, Dec. 3rd.

I am, Sirs, yours faithfully,

A. BERTRAM SOLTAU,
Hon. Sec.

1, Lansdown Place, The Hoe, Plymouth,
Nov. 26th, 1907.

THE MEDICAL PROFESSION AND ESPERANTO.

To the Editors of THE LANCET.

SIRS,—At the Third Esperanto Congress which was held in Cambridge, England, during August, 1907, and the success of which astonished the very few sceptics who were present, many special professional meetings were prepared by the organising committee in order that members of each profession might exchange ideas and deal with general subjects interesting to their profession, thanks to that apt common language Esperanto. At the two special meetings of medical men 16 were present from England, France, Germany, and Poland. Professor Dor of Lyons, France, was elected President, and I was appointed secretary. After long and friendly conversation the following resolutions were unanimously passed:—

1. Since the chief need of medical men who are Esperantists is suitable medical words it is desirable that the International Esperantist Scientific Association (which has just been founded during the Congress period) shall establish a medical department to prepare necessary medical dictionaries.

2. The medical men present, moreover, approve for the making of such dictionaries, "The Method Gem," proposed by the French Medical

Esperantist group and invented by M. Rousseau, apothecary in Levallois-Perret, editor of the Pharmacological Dictionary in ten languages which will soon appear.

3. The production of a medical Esperanto journal was also discussed and Professor Dor was commissioned to approach one of the Paris journals to ascertain the terms and conditions for a special Esperanto edition. But, unfortunately, that important affair will meet with difficulty through the too heavy necessary expense.

The International Esperantist Scientific Association has now officially undertaken special scientific publications. M. de Saussure, the general secretary, is preparing circulars to be sent to the different Esperanto societies requesting their help and explaining the plan by which he intends to work.

Among the special meetings of Esperantists held at Cambridge during the Esperanto Congress in August, 1907, was that of the members of the Red Cross Society on August 16th. Lieutenant Bayol, who first used Esperanto among the members of that society, was unable to be present but Dr. Artigues, a surgeon in the French army, represented him. Dr. Artigues read a report about the present state of the affair—i.e., the use of Esperanto among members of the Red Cross Society. From that report one learnt of the uninterrupted progress made during one year by that praiseworthy idea. Always more and more does Esperanto progress in societies whose aim is to help the wounded; but in France especially the movement is in full activity. The Society of Frenchwomen, whose aim is to help the wounded in war, enthusiastically received our language —i.e., Esperanto—and in the Paris centre of that society, after a speech by Lieutenant Bayol, a class was conducted successfully by M. Gaston Moch; and, finally, a French committee was established for the introduction of Esperanto into societies for helping the wounded. This committee, of which General Prion is the President, contains very important persons; and one can be certain that, apart from their action, their name alone will suffice to have a powerful influence on our future. Dr. Artigues read the names of that committee at the Cambridge meeting and expressed the hope that similar national committees might be established in other countries. Dr. Myhs, from Germany, said that he intended to commence a similar work. Also the Rev. Father Guinard, from Valencia (Spain), promised his esteemed help towards the accomplishment of the same end.

The foregoing proceedings prove the spread of our idea, which more than any other fulfils the chief aim of Esperanto —to be useful to humanity.

I am, Sirs, yours faithfully,

Waterloo, Liverpool, Nov. 20th, 1907. SYDNEY WHITAKER.

FLIES AS CARRIERS OF DISEASE.

To the Editors of THE LANCET.

SIRS,—I have observed with much interest in recent issues of THE LANCET articles dealing with "flies as carriers of disease." This is a subject which has engaged my attention for many years, and I would invite your attention to an article by me in the November issue of the *Indian Medical Gazette* for 1894 entitled "Flies and Cholera Diffusion." The article is mainly a description of an outbreak of cholera in the Gaya Jail of which I was then in charge, and the spread of which in the jail I attributed to, and proved to be due to, flies. By an experiment, the details of which were carried out for me by Mr. Haffkine, who was then my guest, I was able to prove that flies carried the cholera bacillus into milk. Since then the influence of flies as carriers of disease, which was previously surmised, has been accepted by all well-known Indian sanitarians, and rules based on that knowledge have been adopted by them.

I am, Sirs, yours faithfully,

R. MACRAE, M.B. Edin.,
Colonel, I.M.S., V.H.S., Inspector-General of Civil
Darjeeling, Nov. 2nd, 1907. Hospitals, Bengal.

THE BOARDING OUT OF ILLEGITIMATE CHILDREN.

To the Editors of THE LANCET.

SIRS,—Prominence has been given lately from all quarters to the subject of the scandalously high rate of infant mortality amongst our poorer population. A contributing fact I have not seen noticed is the careless manner in which illegitimate children, born in the infirmaries, are boarded out. The committee of ladies, whose duty it is to inspect the women who receive the infants to nurse at 5*s.* or 6*s.* a week, do not always take the trouble to know the character of such foster-mothers. In a case under my own observation a boarded-out child was kept in a filthy condition, left half-dressed while the woman was out for two hours at a time, and drugged to prevent its crying meanwhile. Is there not some method that can be adopted to insure the infants being placed with women of well-established character?

I am, Sirs, yours faithfully,

Nov. 23rd, 1907. VISITOR.

BATHS AND BATHING IN JAPAN.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Sept. 14th, p. 811, there is a comment on the merits of the Japanese bath in reference to an article in the *Journal of the Royal Army Medical Corps* for July, written by Major K. Bruce Barnett, and entitled "Baths and Bathing in Japan." I have no access to the article in question, but the subject is one that interests me, and I regret that no figures were given in your comment with regard to the exact temperature of the hot bath in Japan.

You say, "He then sits in a tub immersed up to the chin for several minutes, enduring a degree of heat by which a European would be well-nigh parboiled." Idiosyncrasy and habit play a very important part in determining the degree of high temperature that individuals can stand, whether it be that of water, vapour, or air.

I have for more than 20 years accustomed myself to feel perfectly comfortable in water at the temperature of 115° F. —i.e., 37° Reaumur, or 46° C. Personally, I can most strongly pronounce for the beneficial effects and have found the results to be exactly those you specify. Enumerated as follows they are: (1) the attainment of a higher degree of cleanliness; (2) invigorating effect after a day of prolonged physical activity, after tiring sedentary work in a close atmosphere, or after exhausting night duty; (3) promotion of circulation after prolonged exposure to damp or cold or draughts; (4) the storing-up of heat effect before going into the cold; (5) the beneficial abortive effect on experiencing the premonitory symptoms of a heavy cold and the prophylactic effect against "catching" colds; and (6) sedative effect on neuralgic pain.

I find that the success of the hot bath is dependent on two conditions: 1. The bathroom must not be overheated. Even in winter the window should be well open at the top. 2. The bath should not be persisted in for more than five minutes.

A member of the German Diplomatic Service who spent many years in Japan tells me that the Japanese bathrooms are open to the air round the top of the walls, and he has seen bathers emerge on a cold winter day as red as boiled lobsters and then walk with extremely scanty clothing along snow-covered roads. On first arriving in Japan my informant took an ordinary European "hot" bath and caught a severe chill. He then adopted the Japanese standard and with excellent results.

It is not given to every European to stand the Japanese hot bath, but on the fortunate few who have adopted it it has a highly recuperative effect, and in my opinion no operation more satisfactorily promotes the interests of metabolism than a really hot bath, all other things being in accordance. But I should greatly like to know, in figures, the Japanese idea of a really hot bath.

I am, Sirs, yours faithfully,

Holstein, Nov. 19th, 1907. E. V. DE V.

THE POWER OF LOCAL AUTHORITIES TO PROVIDE HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Under the heading of "Medicine and the Law" in THE LANCET of Nov. 23rd you give us some interesting information as to the power of local authorities to provide hospitals. This bears on a suggestion contained in the last report of the medical officer (education) of the London County Council. It is proposed to establish six school clinics for the medical examination and treatment of school children. Your article does not deal with the exceptional case of London, but from Sir John Gorst's "Children of the Nation" it may be inferred that the power to establish new hospitals or to enter into contracts with existing hospitals rests with the borough councils and that they can exercise it

without the consent of the Local Government Board. If the London County Council does not possess these powers it would presumably establish the school clinics under the Education (Administrative Provisions) Act of last session. This enables it to "attend to the health" of the children and this seems to sanction children's hospitals with both in- and out-patient departments and a convalescent branch at the seaside; but these would require the consent of the central education authority. Would you kindly inform us if the above is correct, and if not what the law is?

I am, Sirs, yours faithfully,

Nov. 25th, 1907. J. S.

*** Our correspondent's is an interesting point. We referred last week to the powers of local authorities outside the metropolis to provide hospitals for the inhabitants of their districts. The Public Health (London) Act, 1891, confers similar powers on the London borough councils. In fact, the wording of the sections are practically identical. In the metropolis the hospitals for infectious diseases are under the control of the Metropolitan Asylums Board. Moreover, power is given by the Act of 1891 to the metropolitan asylum managers to allow any of their carriages with the necessary attendants to be used for the conveyance of persons suffering from a dangerous infectious disease to and from hospitals and places other than hospitals provided by the managers and may make a reasonable charge for that use. The metropolitan asylum managers, subject to such regulations and restrictions as the Local Government Board prescribe, may admit any person who is not a pauper, and is reasonably believed to be suffering from fever or small-pox or diphtheria, into a hospital provided by the managers. The expenses incurred by the managers for the maintenance of any such person shall be paid by the board of guardians of the Poor-law union from which he is received. The said expenses shall be paid to the board of guardians out of the metropolitan common poor fund. Borough councils must, however, obtain the sanction of the Local Government Board for the erection of hospitals. The Act passed last session, termed the "Education (Administrative Provisions) Act," gives power to a county council to establish vacation schools and means of recreation, &c., and "to provide for the medical inspection of children immediately before, or at the time of, or as soon as possible after, their admission to a public elementary school, and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools. Provided that in any exercise of powers under this section the local education authority may encourage and assist the establishment or continuance of voluntary agencies and associate with itself representatives of voluntary associations for the purpose." Under these provisions we are of opinion that any county council may establish children's hospitals and convalescent homes at the seaside provided they obtain the approval of the Board of Education. These powers could not, however, be exercised for the benefit of infants under school age, for the words of the Act are "immediately before or at the time of or as soon as possible after."—ED. L.

THE VALUE OF OPSONIC DETERMINATIONS.

To the Editors of THE LANCET.

SIRS,—That the investigation of opsonic indices leaves room for the entrance of the personal equation, and that other sources of inaccuracy in the results obtained are difficult to avoid, must often have occurred to those who have employed the method or read of the investigations of others. A very careful series of observations made with the object of ascertaining the degree of accuracy attainable in such work has been published in the August issue of the *Bulletin of the Committee for the Study of Special Diseases* (Vol. I., No. 8, Cambridge, 1907). The results arrived at are not reassuring as to the value to be attached to opsonic determinations as usually carried out. The authors, Miss M. P. Fitz-Gerald, Dr. R. J. Whiteman, and Mr. T. S. P. Strangeways, give instances of the relatively enormous divergencies in the results obtained by the same observer working with different specimens of the same blood, as well as of the variations in results obtained by different workers with the same specimens. They further show that if leucocytes are counted by fifties on the same slide great divergencies will be found in the numbers of the organisms ingested. To give really trustworthy results not less than 1000 cells must be counted—an enormous addition to the already heavy burden imposed by the test. No doubt its upholders will have a reply to make to this serious onslaught on the use of the method and it is difficult to reconcile the findings here recorded with the favourable opinion hitherto formed as to the accuracy of opsonic estimations, supported as it is by the testimony of a large number of investigators whose good faith is unquestioned. It seems to be the fate of biological tests to find acceptance at first, which is succeeded by a stage of doubt and criticism; after this again the true value of the procedure is recognised—a value lower, indeed, than was first claimed for it but yet not inconsiderable as an addition to other methods of investigation. The opsonic index will no doubt "find its level" among other methods, just as Widal's reaction and the tuberculin test have already done.

I am, Sirs, yours faithfully,

Nov. 25th, 1907. F.R.C.S.

CHOLERA IN RUSSIA, TURKEY, AND PERSIA.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

SINCE the date of my last letter on this subject[1] there has been a wide extension of the cholera epidemic through European and Asiatic Russia and in portions of Turkey and Persia adjoining the Russian frontiers. At the same time, however, as this enlargement of the infected area has occurred there has been a lessening of the intensity of the epidemic in places already infected, so that the weekly totals have, on the whole, progressively diminished. This is shown by the following figures: the total cases recorded in the whole of the Russian Empire in the week ending August 28th (Old Style) was 1007; in that ending Sept. 4th,[2] 1163; in that ending Sept. 11th, 911; in that ending Sept. 18th, 724; and in that ending Sept. 25th (Oct. 8th), 866. Since the beginning of the outbreak on July 3rd (16th) the total number of cases recorded down to Oct. 2nd (15th) was 8299 and that of deaths 3995.

In the town of Samara, where it will be recalled cholera first broke out, the numbers of cases returned in the last four of the above five weeks were respectively 42, 30, 27, and 5; and of deaths 32, 18, 16, and 3. The totals from the beginning of the epidemic to Sept. 24th were given as 371 cases and 191 deaths. In the Samara government the cases in the five weeks numbered 66, 140, 81, 95, and 67, and the deaths 21, 73, 39, 47, and 15; the totals from the beginning to Sept. 24th being returned at 503 cases and 250 deaths. In the town of Saratof the returns in the five weeks in question were respectively 55 cases and 14 deaths, 37 cases and 20 deaths, 22 cases and 6 deaths, and 33 cases with 9 deaths. In Tsaritsyn in the last four of the five weeks the cases recorded numbered 158, 101, 56, and 21, and the deaths 79, 46, 26, and 11 respectively. In the Saratof government in the same five weeks there were recorded 231, 79, 54, 79, and 28 cases, with 131, 53, 23, 28, and 16 deaths. In the town of Astrakhan, in the last four of the five weeks the cases numbered 252, 88, 38, and 12, and the deaths 145, 44, 26, and 11. In the Arkhierei suburb and the Cossack stanitza of Ataman, both opposite the town of Astrakhan, the cases in the same weeks amounted to 48, 25, 8, and 7, while the deaths numbered 28, 15, 1, and 2. In the government of Astrakhan, in the five weeks the cases were returned as follows: 579, 139, 107, 54, and 24, and the deaths 380, 63, 39, 30, and 8. At Tcheliabinsk, the terminus of the Trans-Siberian railway, in the government of Orenburg, 4

[1] THE LANCET, Oct. 19th, p. 1119.

[2] Where not otherwise indicated all the dates mentioned are according to the Old Style.

cases with 1 death occurred in the week ending Sept. 11th, and 3 cases with 2 deaths in that ending the 18th.

In the southern portions of European Russia the following figures have been recorded. In the town of Ekaterinoslav there were 2 cases in the week ending Sept. 4th (17th), 10 cases and 4 deaths in the next week, then 7 cases and 2 deaths, and in the week ending Sept. 25th 12 cases with 1 death. In the government of that name 2 cases with 1 death, and 0 cases with 1 death were returned in the last two weeks of the period. In Rostof on Don during the last three weeks of the period the cases returned numbered respectively 17, 51, and 46, and the deaths 7, 19, and 23. At Nakhitchevan, close to Rostof, 3 cases with 2 deaths were observed in the week ending Sept. 25th, and from Taganrog (whence later news has been received here by telegraph) the following figures have been returned: before Sept. 26th (Oct. 9th), 3 cases with 2 deaths; on Oct. 2nd (15th), 2 cases, 2 deaths; and between Oct. 15th and 24th (New Style), 35 cases with 21 deaths. Elsewhere in the Don Cossack Territory there have occurred, in the week ending Sept. 11th, 12 cases and 8 deaths; in that ending Sept. 18th 23 cases and 10 deaths; and in that ending Sept. 25th 16 cases with 8 deaths. In the Kherson government only 1 (fatal) case has been recorded; it occurred in the last week of the period. The important town of Kief has been the scene of a rather serious epidemic of the disease. According to the Russian medical papers the outbreak began there in the prisons and police lock-ups. The official returns give 1 case and 1 death in the week ending Sept. 4th; 15 cases and 3 deaths in that ending Sept. 25th; 29 cases and 3 deaths between Sept. 22nd and 29th (*sic*); 60 cases and 8 deaths on Oct. 1st; 88 cases and 6 deaths on the 2nd; 3rd, missing; 82 cases and 13 deaths on the 4th; 5th, missing; 101 cases and 14 deaths on the 6th. Finally, at Kishinef a single case was recorded some time in October.

In a northerly direction from Samara the course of the cholera epidemic has been as follows. In the town of Simbirsk the cases numbered respectively 3, 0, and 1, and the deaths 1, 1, and 1 in the three weeks ending Sept. 18th. In the government of that name the cases and deaths in the five weeks ending Sept. 25th were respectively 21 and 13, 30 and 13, 43 and 14, 4 and 6, and 11 and 6. In the town of Penza 1 case and 1 death occurred in the last week of the period, and in the Penza government in the last four of the five weeks there were respectively 3, 8, 2, and 12 cases, and 1, 1, 1, and 7 deaths. In Kazan town in the same four weeks the cases numbered 11, 28, 32, and 30, and the deaths in the last three weeks 10, 7, and 12. In the Kazan government in the five weeks the cases were returned at 8, 8, 4, 4, and 19, and the deaths at 11, 3, 1, 1, and 8. In Nijni Novgorod town the cases in the last four weeks were 58, 33, 20, and 16 and the deaths 22, 16, 8, and 4; while in the government of the same name the cases in the five weeks were 74, 41, 49, 30, and 11, and the deaths 31, 18, 25, 22, and 7. In Kostroma town, in the four weeks, the cases numbered 20, 13, 5, and 1, and the deaths 7, 3, 4, and 0. In the Kostroma government the cases in the five weeks were returned at 8, 28, 32, 39, and 29, and the deaths at 1, 9, 18, 27, and 17. In Yaroslavl town in the four weeks there were 10, 6, 5, and 4 cases, and 5, 1, 3, and 1 deaths; and in the government, in the five weeks, 7, 1, 8, 2, and 3 cases, and 3, 1, 1, 2, and 1 deaths. In Viatka town 1 case and 1 death occurred in the week ending Sept. 11th, and 6 cases in that ending Sept. 25th. In the Viatka government there were 2 cases and 2 deaths in the week ending Sept. 4th, 6 cases and 0 death in that ending Sept. 11th (figures missing for the next week), and 2 cases with 2 deaths in that ending Sept. 25th. In Perm town 4 cases were observed in the week ending Sept. 11th and 1 case and 1 death in that ending Sept. 25th; in the government of that name a single case occurred in each of the first two weeks of the period and a single death in each of the first three. One fatal case was reported from the Ufa government between Sept. 4th and 11th; 4 cases with 3 deaths from the Riazan government between the 11th and 18th; while from the Vladimir government 1 case and 1 death were returned between August 25th and Sept. 4th and four cases between Sept. 4th and 11th. Finally, a single fatal case was reported from the city of Moscow in the week ending Sept. 4th.

In the Caucasus there has been no very marked extension of the epidemic. At Baku 12 cases with 1 death occurred between August 22nd and 28th; then for two weeks the information is incomplete; between Sept. 11th and 18th there were 20 cases and 10 deaths and between Sept. 18th and 25th 4 cases with 5 deaths. From Tiflis only scanty news has been published; a fatal case occurred there on or before Oct. 30th (New Style) and another on Nov. 5th. From Novorossiisk also detailed information is lacking; of the two cases there mentioned in my last letter it now appears that one occurred on the line joining that port with Rostof on Don at a station 40 kilometres from Novorossiisk and the other in the latter town, the victim being a labourer employed at the railway station.

The most striking feature in the recent behaviour of this epidemic has been its wide spread through Central Asia and Siberia. In Transcaspia 1 case occurred, in the port of Krasnovodsk, between Sept. 11th and 18th; in the Syr-Daria territory single cases were observed in each of the weeks ending Sept. 4th, 18th, and 25th; and at Tashkent there occurred 1 case and 1 death in the week ending Sept. 11th, 4 cases with 0 death in the next week, and 2 cases in that ending Sept. 25th. In the town of Semipalatinsk 2 cases were reported in the week ending Sept. 18th; and in the Semipalatinsk territory there were 1 case with 1 death in that week and 4 cases with 1 death in the following week. In the Akmolinsk province the figures have been higher; in the four weeks ending Sept. 25th there occurred respectively 27, 47, 39, and 236 cases, and 12, 33, 19, and 69 deaths. In the Siberian government of Tomsk the returns for the three weeks ending Sept. 25th were respectively 60, 19, and 138 cases, and 27, 11, and 87 deaths. From that of Tobolsk the following figures have been received: 10 cases and 5 deaths in the week ending Sept. 18th, and 23 cases with 15 deaths in the following week. Finally, from the remote government of Yeniseisk there have been reported 7 cases and 3 deaths in the week ending Sept. 25th, and from the town of Irkutsk 12 cases with 4 deaths in the same week.

From Russian territory the cholera infection has already spread into adjoining portions of Asiatic Turkey and of Persia. In Turkey it has so far been confined to two villages named Khorasan and Hassan-Kalé, both on the road between Kars on the Russian side and Erzeroum on the Turkish side of the frontier. The cases here occurred mainly among a group of Russian emigrants, but there seem to have been a few cases also among the inhabitants of the villages. The returns are imperfect, but about 30 deaths appear to have occurred in all. Heavy snow has now fallen in this region and communications are difficult. It is noteworthy that no case of cholera has been reported from Kars, whence the emigrants came, and also that they had passed the "medical visit" at Keutek on the frontier without anything suspicious being observed in their state of health. The Russo-Turkish frontier has been closed for several weeks past, save at three points named Kopmish, Keutek, and Karabulak, where sanitary stations have been established.

From Persia, also, the information is incomplete. It is known, however, that a case of cholera occurred in a fisherman, a passenger on a steamer from Astrakhan to the Persian shores of the Caspian. The man died and the body was thrown overboard; two other fishermen, comrades of the dead man, fell ill at Ashur Ada, one on Sept. 5th (18th), the other on the 6th (19th), and both died on the latter date. On Sept. 14th (New Style) the British Consul at Resht telegraphed to the Legation at Tehran that 3 suspected cases of cholera had occurred at Enzeli and about this time 1 case of cholera was reported from Astara.

Constantinople, Nov. 14th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Territorial Medical Service.

ALTHOUGH Thursday is usually a busy day and not a good day for meetings, and in spite of the fact that on the morning of Thursday last the city and district were visited by a thick and troublesome fog which greatly interfered with the course of daily work, about 100 members of the medical profession assembled in the medical theatre of the University to hear an address by Sir Alfred H. Keogh on the Medical Part of the Territorial Force Scheme, and they were rewarded by an admirably lucid exposition of the importance of the scheme as a whole and an explanation of some of the pressing necessities and difficulties. Further explanations were given after the dinner at the officers' mess, at which Sir Alfred Keogh was the guest, on the evening of the same day, and both at the lecture and after the dinner

appeals were made to the well-known patriotism of the members of the medical profession. It was admitted that a sacrifice of time and trouble will be necessary on the part of the younger members of the profession, but it was pointed out that the inconveniences were to be made as light as possible consistent with efficiency and that alternative plans of work, adapted to meet the majority of circumstances, had been arranged; further, it was stated that the arrangements already made were not to be looked upon as unalterable, for they would be willingly changed by the controlling authorities if circumstances pointed out better and more workable methods.

The New Maternity Hospital.

The new Maternity Hospital was opened last week by Mrs. Barrow Cadbury, to whose energy and generosity its successful completion is largely due. The hospital is situated in a central and easily accessible position in Loveday-street, close to the General Hospital, and it is an admirably conceived and executed building both from architectural and clinical points of view. It is built on the block system and consists of three blocks united by a central corridor the windows of which form cut-offs between the blocks. On the ground floor in the front block are an office, the board-room, a waiting-room, and two consulting-rooms. On the same floor in the central block are the porter's room, the bath-room for new patients, the laboratory, the dispensary, and the staircase; and on the ground floor of the back block are the sitting-rooms and bedrooms devoted to the matron and some of the nurses. On the first floor are two waiting wards, one for six and the other for two patients, a labour ward, a convalescent ward for eight patients, a kitchen, and a linen store. The second floor is arranged in a similar manner except that it contains bedrooms for staff nurses and midwives. On the third floor are staff and servants' dining-rooms, pupils and servants' bedrooms, and a kitchen. On this floor also is the isolation ward projecting from the central block, with which it is connected by a bridge which forms an effectual cut-off. The heating chamber, the sterilising room, and the laundry are in the basement, and the pathological room and mortuary are isolated and approachable only from the yard. The ventilation is natural and the smallest amount of air space allotted to a patient is 1433 cubic feet in the waiting wards, whilst in the labour wards 3100 cubic feet are provided and in the convalescent wards 1672 cubic feet. The heating is on the low-pressure system with special hospital radiators. The fittings and the internal walls have all been designed and finished with the object of avoiding the formation of lodgments for micro-organisms. Though the hospital is small its arrangements and construction are ideal and all concerned in its planning and erection are to be congratulated upon their work. Only one need remains and that is the necessity for a more generous supply of money from the public so that the work may go on unimpeded.

Birmingham Branch of the Institute of Hygiene.

A local branch of the Institute of Hygiene was inaugurated last week by Sir William H. Bennett at a meeting held in the University. It is intended that the branch shall carry on work similar to that done by the parent society in London—that is, that it shall promote the diffusion of knowledge concerning personal and home hygiene—and Birmingham is to be a centre in which examinations will be held for candidates who wish to obtain the certificate and diploma of the institute. The object of the institute is not to teach but to examine and to encourage the acquisition of knowledge of subjects which are of paramount importance in the national life. The motion that a Birmingham branch should be formed was proposed by Sir William Bennett, who gave an admirable sketch of the history of the institution and a definite explanation of its object, and seconded by Mr. T. Barclay who promised the support of the health committee.

Nov. 26th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Notification of Births Act, 1907.

Dr. E. W. Hope, the medical officer of health, read a paper at the Liverpool Medical Institution on Nov. 21st explaining the provisions of the above Act. He said that for a great number of years the subject of infant mortality had engaged the attention not only of the medical profession but also of those interested in questions affecting the public health. He incidentally mentioned that he read a paper before the institution upon this subject 21 years ago and the views he then expressed have been fairly borne out by subsequent experience. Legislative and administrative measures had been devised in various directions with a view to lessen the loss of infant life, one of the most recent being the Midwives Act which, in his opinion, had proved extremely beneficial, gradually fulfilling the objects which it was designed to accomplish. He pointed out that the Notification of Births Act is an "adoptive" Act—that is to say, the local authority may adopt its clauses or leave it alone—but the resolution of adoption by the local authority cannot take effect until the consent of the Local Government Board has been obtained. It does not appear that the Local Government Board can prevent its adoption but, on the other hand, it may by order declare the Act to be in force in any area in which it has not been adopted. Dr. Hope said that the Act is one which will primarily affect the medical attendant or midwife and that when Acts of Parliament impose obligations alternatively upon one or two people, one of whom is the medical attendant, it is the latter who bears the brunt of the burden. This is the universal experience of the Notification of Infectious Diseases Act. He said that his object in bringing the matter before the society was to ascertain whether the members had any views as to the way in which the obligation imposed upon the medical profession could best be carried out with a minimum of inconvenience. He suggested an easy and simple form of notification. A point of interest in the paper was the allusion to the omission of any provision for payment of the medical man or midwife for the services rendered. He said that in the case of the Midwives Act the omission was so gross that when he pointed it out to the health committee it at once assented to a uniform fee being paid to medical men who gave assistance in conformity with the requirements of the Act. In the case of the notification of births he said that the circumstances were somewhat different, the services rendered being very much less and involving but little time. At the same time he regretted the omission of any specific mention of payment for the service, but it appeared to him that such payment would be covered by Clause 1, Section 6. Upon the latter point he said that he would confer with the town clerk. The cause of the omission appeared to him a very simple one. The Local Government Board possesses a highly competent medical staff but unhappily it is not represented upon the Board. Its business is merely to report and everyone knows what happens to reports when the author of the report is not present to explain, to amplify, or if needed to urge the necessity for the recommendations made. He concluded a very interesting paper by saying that it may fairly be assumed that the great majority of the measures in which the medical profession is concerned, or by which its members are affected, come within the purview, directly or indirectly, of the medical staff of the Local Government Board. Until the Local Government Board is so constituted as to comprise medical representatives as members of the Board the profession will continue to labour under the difficulties illustrated by these two Acts of Parliament. Dr. Hope stated that the very early age periods are the fatal ones in Liverpool and that after five years of age the difference in the mortality rates of all England and Wales and Liverpool is but slight. The members of the institution, on the motion of Sir James Barr, seconded by Dr. William Carter, approved of the adoption of the Act and the form of notification suggested by Dr. Hope.

Presentation to Mr. Abraham Ellenbogen, L.R.C.P. & S., L.M. Irel.

Mr. A. Ellenbogen of Elizabeth-street has been presented by the B division of the Liverpool police force with an illuminated address setting forth certain occurrences of the night of Oct. 1st when his professional skill and exertions saved the life of Police-constable Rimmer. The head constable in making the presentation said that Constable Rimmer, suffering from frightful wounds and in dire need of medical assistance, was promptly attended to by Mr. Ellenbogen who was passing by at the time and who, in his opinion, saved the life of the constable.

Liverpool Royal Infirmary: Election of Honorary Surgeon.

A meeting of the election committee of the Royal

Infirmary was held at the Law Association Rooms on Nov. 20th to elect an honorary surgeon in place of Mr. Rushton Parker whose period of office had expired. An arrangement having been arrived at between the two candidates—Mr. R. A. Bickersteth and Mr. W. Thelwall Thomas—certain concessions having been made by both by which their services will be retained for the infirmary, Mr. Bickersteth was elected, he being the senior by about 12 months. The arrangement effected has given great satisfaction to the friends of the infirmary.

Liverpool Volunteer Medical Officers and the Territorial Force Scheme.

Surgeon-Lieutenant-Colonel Damer Harrisson (late of the Lancashire Hussars) presided at a dinner of Volunteer surgeons held last week at the University Club. At the close of the repast a series of motions were adopted the effect of which was that the Director-General of the Army Medical Service (Sir Alfred H. Keogh) will be memorialised with the object of having Liverpool recognised as the headquarters of an army medical school, also as the headquarters for medical service in the Western Division, and if possible as an army school of sanitation.

The late Dr. J. E. Dutton: Proposed Memorial.

A meeting was held at the town hall, Chester, on Nov. 12th for the purpose of promoting a memorial to the late Dr J. Everett Dutton of Chester in connexion with the Liverpool School of Tropical Medicine. Dr. Dutton died in the interior of Africa some time ago while investigating the cause of sleeping sickness, the parasite of which was discovered by him. The memorial is to take the form of a professorship in some subject in connexion with tropical medicine. A committee was formed with the Mayor of Chester as chairman. Sir Rubert Boyce was present at the meeting and spoke feelingly of his old friend Dr. Dutton.

The Mary Kingsley Memorial Medal.

The latest mail advices received by Sir Alfred Jones, the chairman of the Liverpool School of Tropical Medicine, from Cuba give an account of the presentation to Dr. Charles Finlay of Havana of the Mary Kingsley memorial medal, awarded to him by the Liverpool School of Tropical Medicine. The presentation was made by the Provisional Governor of Cuba, the Hon. Charles Magoon, on Nov. 4th. The ceremony took place in the "Aula Magna" of the University of Havana, where the different faculties were duly represented, and in the presence of the Acting Secretary of State and the members of the Diplomatic Corps. Dr. Finlay conceived the mosquito hypothesis of yellow fever in 1883 and attempted to verify it by experiments. The exact degree of verification which he obtained seems to be doubtful, but he identified the proper species of mosquito. When in 1890 the Americans appointed their commission to study the disease Dr. Finlay put this species into the hands of that commission and enabled it, with the Government help which it possessed, to obtain immediate and absolute verification of his theory.

Nov. 26th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The University of Leeds.

Professor L. C. Miall, D.Sc., F.R.S., who recently retired from the chair of biology, and Professor C. J. Wright, M.Sc., who occupied for many years the chair of midwifery, have recently had conferred on them by the council the well-earned status of emeritus professors. It will doubtless be a source of gratification to their colleagues that the long services of these two gentlemen have received this recognition. The council of the University, acting on the recommendation of the Senate, has elected Dr. W. H. Maxwell Telling as honorary demonstrator of medical pathology.

The Leeds Public Dispensary.

Dr. T. Wardrop Griffith, who was appointed physician to this institution on the resignation of Dr. A. G. Barrs in 1888 having found it necessary to send in his resignation to the board so that he might continue to find time for his other public duties at the University and at the infirmary, has at a special meeting of the trustees been appointed consulting physician to the dispensary. At a meeting of the special election committee held on Nov. 21st Mr. G. W. Watson, M.D. Lond., M.R.C.P. Lond., was appointed to fill the vacancy caused by the resignation of Dr. Griffith. Until something like 15 years ago the appointment of honorary officers to the dispensary was intrusted to the general body of subscribers to the institution and a contested election was a very vexatious, troublesome, somewhat expensive, and likewise humiliating experience to the candidates. Voting by proxies was permitted and a man's success depended more on his business acumen and the activity and influence of his friends than on his professional abilities. Happily the dispensary and the Hospital for Women and Children followed the wise lead of the General Infirmary and the appointments are now in the hands of a special election committee consisting in each case of the board of management—some 12 laymen who are well acquainted with the working of the institution concerned—supplemented by a varying number of men of position in the city specially selected at the annual meetings of the charities for the purpose and not otherwise connected with their management. On this occasion the election was made without a contest. It is the rule of the dispensary that the position of physician must be held by one who is practising as a physician and not as a general practitioner. Though there cannot be a perfectly sharp line of division between what is known as a physician and what is known as a general practitioner, the spirit of the law is well understood. It has for long been a tradition among the members of the staff of the dispensary that any of them who hold similar honorary positions at the General Infirmary should make way for younger men who were desirous of coming on the staff, and Dr. Griffith's resignation was determined not only by the above-noted considerations but by the fact that Dr. Watson was without an honorary clinical post.

The Hospital for Women and Children.

The funds of this institution have received a very welcome contribution as the result of a bazaar which was decided upon at a meeting of ladies who are interested in its welfare. The bazaar was held about the middle of this month and the amount realised was upwards of £5000.

Dinner of Past and Present Students of the Leeds School of Medicine.

The dinner of the past and present students of the Leeds School of Medicine is an event which is always an interesting one and the attendance is as a rule large and representative. The twenty-ninth annual dinner is to be held this year on Dec. 5th. Mr. R Lawford Knaggs, who is the lecturer on practical surgery at the University and also one of the honorary surgeons to the infirmary, will occupy the chair.

Further Congratulations to Sir Thomas Clifford Allbutt.

At the weekly meeting of the board of the General Infirmary at Leeds a motion, proposed by the treasurer, Mr. Charles Lupton, was adopted offering the cordial congratulations of the board to Sir Thomas Clifford Allbutt on his recent honour. At a meeting of the Leeds and West Riding Medico Chirurgical Society held on Nov. 22nd it was also resolved unanimously that the secretaries should be instructed to convey the warm congratulations of the society to Sir Thomas Clifford Allbutt who was president in the session of 1880–81.

Nov. 26th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

West Wales Joint Asylum.

THERE appears at last to be some prospect of the recommendations of the Lunacy Commissioners with respect to the asylum at Carmarthen being carried out. They included the provision of fire escapes, the proper treatment of the asylum sewage, and the reconstruction of the laundry.[1] The appointment of a second assistant medical officer was also urged upon the visiting committee. The threat of the Commissioners to report to the Secretary of State that the county councils were not providing adequate asylum accommodation has had a salutary effect and at a special meeting of the visiting committee it was unanimously resolved:—

That the members of this committee present at this meeting having failed to agree upon an arbitrator, recommend to their respective councils a reference to arbitration of all points of difference and to ask for the appointment of an arbitrator by the Local Government Board.

[1] Vide THE LANCET, Nov. 9th, 1907, p. 1350.

It was agreed that at the arbitration proceedings no counsel or solicitors should be engaged, but that each authority should be represented by its own clerk and that the cost of the reference should be borne in equal parts by the three county councils concerned. At the same meeting the medical superintendent (Dr John Richards) was empowered to procure fire escapes and, together with the engineer, to prepare plans for the disposal of the sewage and for a properly equipped laundry. It is to be regretted that the appointment of a second assistant medical officer was not definitely decided upon, though it was arranged to consider the question at the meeting of the committee in January.

Election of a Coroner.

Until quite recently the coroner for the borough of Cardiff was also coroner for the Eastern Division of Glamorgan but upon the death of the incumbent it was decided to appoint different persons to the two posts. A solicitor and former member of the corporation was elected for Cardiff and the Glamorgan council has now appointed a solicitor for the county. The latter was elected by a majority of six votes, the other candidate being a local medical practitioner. One of the requirements of the county council was that the successful candidate should have property in the county of the value of at least £1000, in order it was said to protect the council if the coroner led it into any serious action at law.

The Sanatorium Treatment of Tuberculosis in Wales.

At the quarterly meeting of the Cardiganshire county council held on Nov. 14th the public health committee reported having considered petitions from several district councils in favour of the establishment of an isolation hospital for the reception of patients suffering from pulmonary tuberculosis. It was recommended that an inquiry should be held. It was explained that these processes were necessary under the Isolation Hospitals Acts to authorise the making of a contribution toward the building fund and annual maintenance of a bed at Alltymynydd Sanatorium (established for West Wales). The recommendation was objected to on the ground that enormous expenditure would be entailed. Mr. Jenkyn Lewis said that tuberculosis would be made a compulsorily notifiable disease. The chairman said that no administrative difficulties had arisen in the county of Westmorland where the Acts were adopted. In the result it was decided that a public inquiry should be held and that medical practitioners and sanitary inspectors should be invited to attend.

The Diagnosis of Membranous Croup.

At the last meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health Dr. Richard Prichard, medical officer of health of Llandaff and Dinas Powis, read a short but very instructive paper upon the diagnosis of membranous croup. He differentiated between spasmodic croup with its sudden attack, terrified and distressful breathing but quiet pulse and normal temperature, and catarrhal laryngitis with its harsh crowing cough but attended by pyrexia and rapid pulse. True membranous croup or diphtheria of the larynx he considered was characterised by a harsh, dry, often crowy cough with a rising temperature and an accelerated pulse. The cough is not so metallic as in spasmodic croup and the expression on the child's countenance is one of composure and resignation rather than of alarm. If respiration becomes more noisy and laboured and substernal retraction marked with more or less cyanosis such a case is almost without doubt one of membranous croup and not a moment should be lost in injecting anti-diphtheritic serum.

Death of Dr. Robert John Paton.

The medical profession of Newport has sustained a severe loss through the death, on Nov. 16th, of Dr. Robert J. Paton at the early age of 45 years. While operating upon a patient for appendicitis at the Newport and County Hospital he scratched his finger and the wound becoming septic he eventually succumbed to general septicæmia. Dr. Paton was born in India, his father being chaplain to the 72nd Highlanders. In 1886 he obtained the triple diploma of the Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow and in the same year took the degree of M.B. and C M of the University of Edinburgh. In 1890 he purchased a practice in Newport and actively identified himself with the medical life of the town. He was one of the honorary surgeons of the Newport Hospital and a district medical officer of the Newport union. When the Midwives Act came into force he was appointed lecturer on midwifery at the Monmouthshire training centre. For many years he was closely interested in the ambulance movement and at the time of his death was surgeon-major of the 2nd V.B. South Wales Borderers. The esteem and regard with which he was regarded by his fellow townsmen were shown by the immense concourse which assembled at his funeral, which was carried out with full military honours. He was twice married, his widow being formerly matron at the Newport isolation hospital.

Nov. 26th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Women Graduates and the Franchise.

A SECOND action raised by a few women graduates of the Universities of St. Andrews and Edinburgh in the Court of Session to have it declared that they were entitled to vote at the election of a Member of Parliament to represent these Universities has been again decided against the women graduates. The case was tried before Lords McLaren, Pearson, and Ardwall. Lord McLaren, in giving the judgment of the court, pointed out that apart from the right to university representation which was claimed under the action it was an incontestable fact that women never had enjoyed the Parliamentary franchise in the United Kingdom. It must therefore be concluded that it was a principle of the unwritten constitutional law of the country that men only were entitled to take part in the election of representatives to Parliament. All ambiguous expressions in modern Acts of Parliament must be construed in the light of that general constitutional principle. If Parliament had intended to subvert an existing constitutional law in favour of women graduates the intention would naturally be expressed in plain language and therefore if ambiguous language was used it must be construed in accordance with the general constitutional rule. A vote was given to every person whose name was on the register on condition that the person was "of full age" and "not subject to any legal incapacity." A peer might be on the register but it was not intended that he should have a vote for returning a Member to the House of Commons. Their lordships then traced the history of the admission of women to graduation in some of the Faculties. The Universities' Commissioners were empowered to make arrangements for the admission of women to graduation but no power was given to them to admit women to the Parliamentary franchise. Had Parliament intended that obtaining a degree carried with it the right of voting at Parliamentary elections they would have expected to find a provision to that effect in an Act of Parliament itself. There was no such provision. It had been contended that the pursuers were entitled to receive voting papers. If the registrar had taken a different view of his duty and sent the lady graduates voting papers as the pursuers held ought to have been done it would have been competent for the candidate or his agent to object to their votes. As, however, the court on the main question was adverse to the claim of the lady graduates it followed that no one had a cause of action for not receiving an invitation to give a vote which she could not lawfully exercise.

Appointment of Assistant Physician to Edinburgh Royal Infirmary.

Dr. Edwin Bramwell has been appointed an assistant physician to the Edinburgh Royal Infirmary. Dr. Bramwell is a son of Dr. Byrom Bramwell who is now the senior ordinary physician to the infirmary. Dr. Edwin Bramwell is a graduate of the University of Edinburgh. He is a Fellow of the Royal College of Physicians of Edinburgh, and has been recently elected a Fellow of the Royal College of Physicians of London. There were several candidates.

Statistics of the Universities' Medical Preliminary Examinations.

The statistics of the joint board of examiners of the Scottish Universities for the preliminary examinations in March–April, 1907, have just been published. In the medical preliminary examination the percentage of students who passed in all subjects was 20·00 in St. Andrews, 31·31 at Glasgow, 28 57 at Aberdeen, and 33·25 at Edinburgh. This gives a percentage of 31·57 for all the Universities.

The Milk-supply of Glasgow.

The difficulty of maintaining a high standard of purity in the milk supplied to a large city like Glasgow is illustrated by a report just presented to the health committee of the corporation. Quite recently in samples of cream taken at a railway station evidences of tuberculous infection were found. This resulted in the discovery of two cows affected with tuberculosis of the udder and the health authorities of the county to which the animals belonged took steps to exclude them from the milk herd. Since then two additional samples of cream from two separate farms in another county were found to be similarly affected. Inquiry again revealed at each farm a cow with udder disease. The point is that Glasgow is receiving milk and cream from other parts of the country where the cows may be infected with tuberculosis, while the milk produced in its own byres is from cows in which, owing to the stringent regulations in force, clinical tuberculosis is unlikely to occur. It is worthy of consideration by the health committee whether the time has not arrived when Parliamentary powers should be sought to prohibit the sale within their boundary of milk obtained from the districts of local authorities from which repeated evidence of tuberculosis in milch herds has been obtained. With reference to the adulteration of milk the corporation chemist reports that during the past year 193 samples of sweet milk, four of cream, and six of skim milk were submitted, and of these 72 of sweet milk, one of cream, and one of skim milk were adulterated, either on account of containing added water, or being deficient in fat, or both. Including ten samples of doubtful quality, the percentage not certified to be genuine was 41·3 per cent., the previous year's figure being 42·9 per cent. It is affirmed in the report that the percentage of adulteration in Glasgow is high compared with the country generally, from which it may be inferred that either the adulteration of the Glasgow milk supply is excessive as compared with other towns or that the official control of the same is more effective in the detection of adulteration. Attention is drawn to the fact that whereas the adulteration practised by farmers generally consists in the addition of water, any adulteration by retailers is principally brought about by the toning-down system—namely, the addition of skim milk to sweet.

A New Lanarkshire Hospital.

The upper ward district committee of the Lanarkshire county council opened last week the new fever hospital which has been erected at a cost of £3000 at Roadmeetings, near Carluke. The building is of stone and is built within the same grounds as the old wood and iron hospital which has done duty for ten years and will still be retained for supplementary accommodation.

Dispute over a Ross-shire Medical Man's Will.

In the Court of Session on Nov. 21st Lord Mackenzie allowed a proof in the action by the Rev. W. Watson, Kiltearn, Ross-shire, executor of the late Dr. Donald Allan, Evanton, Ross-shire, who asked the court to determine who was entitled to the residue of the estate of Dr. Allan, which amounted to £4134. The deceased's will contained the following provision: "The residue of my property I give and bequeath for the benefit of foreign missions in India, China, Africa, and South America." The next of kin, the Church of Scotland, the United Free Church, and the Free Church were called as defenders. The next of kin maintained that the bequest was void from uncertainty and that the residue fell to them. The Church of Scotland claims the whole in respect that the deceased was in full communion with that Church. The United Free Church stated that the testator was an elder of the old Free Church and that as after the date of the union in 1900 there was no United Free Church in his district the testator became a member of the Church of Scotland. The Free Church did not lodge a claim.

A Driving Accident.

At a justice of peace court at Aberdeen on Nov. 20th John Douglas, road surveyor, Turriff, was charged with contravening the Road Act by depositing 18 heaps of stone metal on the side of the public road, between Turriff and Huntly, and permitting them to remain there from August 21st to Oct. 15th—a longer period than was necessary for the spreading of the metal—in consequence of which Dr. J. S. Chapman, Turriff, met with an accident while driving along that road on Oct. 13th. The accused pleaded not guilty but was convicted on evidence and was fined £2 with £3 expenses.

Aberdeen Medico-Chirurgical Society.

At the annual meeting of the Aberdeen Medico-Chirurgical Society held on Nov. 21st, the following office-bearers were elected:—President: Dr. George Williamson. Vice-President: Dr. David Rennet. Secretary: Dr. John Marnoch. Recording secretary: Dr. George M. Duncan. Treasurer: Dr. A. H. Lister. Librarian: Dr. P. Howie. Council: Dr. G. M. Edmond, Dr. A. R. Galloway, Dr. J. Gordon, Dr. H. M. W. Gray, Dr. J. S. Riddell, and Professor A. Ogston.

Nov. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Purdysburn Hospital, Belfast.

THE Registrar-General of Ireland has written to the Lisburn board of guardians regretting that he could not constitute the Purdysburn infectious diseases hospital into a separate registration district. He thought that—should such a course not already be adopted—the Belfast municipal authorities should see to the proper disinfection of officials from Purdysburn hospital who may attend as informants at the registration office to register deaths. To obviate all dangers he advised that Dr. Gawin Orr (the registrar of deaths in the district) should himself attend at Purdysburn hospital periodically to effect the registries from the institution. Dr. Orr has replied that the informants to whom he objected were the inhabitants of slum districts whose condition was obvious to the senses and whose presence at his dispensary frequently induced patients to leave. The Registrar-General objected to the hospital premises being constituted a special registration district as being unprecedented, but Dr. Orr replies that it is usual for a hospital to be situated within the area which it was intended to serve. In this instance the Belfast authorities had transferred certain public institutions into another union and had, in fact, as Dr. Orr writes, dumped into his unoffending district the physical and mental wreckage of the city. Dr. Orr has resigned the local registrarship of deaths. At a meeting of the Lisburn board of guardians held on Nov. 19th, when the general opinion was entirely in harmony with Dr. Orr's views, it was pointed out that there was probably not in Ireland or in the kingdom a parallel case and it was finally decided to communicate again with the Registrar General, supplying him with full particulars. It was also suggested to bring the matter before Parliament.

Health of Belfast School Children.

At a meeting of the public health committee held on Nov. 21st a report on the condition of the Belfast primary schools was submitted showing that while many of the 186 school buildings serving 301 educational centres are quite up to modern requirements a number of them are not places where children may be taught under the most healthy conditions. The committee recommends the corporation of Belfast to take over the control of secular instruction in Belfast; to assume the responsibility for the erection, equipment, and maintenance of the primary schools, including those at present under the charge of the Board of National Education; and to appoint a special medical officer (under the superintendent medical officer of health) to supervise school hygiene in the city.

Opening of the Tuberculosis Exhibition.

On Nov. 22nd in the presence of a large audience in the old Town-hall, Belfast, Sir Richard Douglas Powell, President of the Royal College of Physicians of London, gave an address and opened the Tuberculosis Exhibition. The chair was occupied by the Right Hon. Thomas Sinclair, D.L., P.C., who spoke of the bringing of the Tuberculosis Exhibition to Belfast as the first public act of the local branch of the National Women's Health Association of Ireland, formed three weeks ago by the Countess of Aberdeen. Sir R. Douglas Powell, in a very interesting address, pointed out that encouragement could be obtained in the fight against tuberculosis by considering the results of the efforts of the past, by surveying things as they were at present, and by looking into the future in order to see what hope there was of real special achievement. Speaking of the deplorable position of Ireland in reference to tuberculosis, he sincerely trusted that, with the cordial coöperation of the medical men of

Belfast and the strenuous help which he was sure they would receive from the ladies of the Women's National Health Association which had just been formed, a vast improvement in the next five years would be observed in that respect. He did not believe that the compulsory notification of consumption was practicable or that it was desirable at the present moment; there were many other things they should deal with first of all and the expenditure that would be incurred could be better used in the prevention of the disease in other ways. He expressed the earnest hope that the exhibition would be a great success and that as a result of the indefatigable labours of the members of the association and those coöperating with them in that work the death-rate from consumption would be largely reduced in the great city of Belfast. A cordial vote of thanks was accorded to Sir Richard Douglas Powell.

The Chief Secretary in Belfast.

During his recent visit to the North of Ireland Mr. A. Birrell, M.P., Chief Secretary for Ireland, visited Queen's College, Belfast, and gave an address to the students in the McMordie Hall, under the auspices of the Literary and Scientific Society. Beyond the fact that the speech was a most amusing and interesting one there was no evidence as to how the Chief Secretary meant to settle the knotty problem of university education in Ireland. He simply said that he was collecting information from various sources in reference to the matter which he hoped to be able to solve. His reception at the College was extremely cordial.

Nov. 26th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Nursing School of the Assistance Publique.

ON Nov. 19th an examination of 25 pupils was held for admission to the nursing school of the Assistance Publique at the Salpêtrière. The subjects of the examination were simple questions in medicine and a written portion comprising a dictation, to serve as a test of writing, a simple essay (*narration*), and some problems in elementary arithmetic. Those candidates who had not friends to whom to go during the examination were boarded and lodged at the school. The nursing school of the Assistance Publique receives as pupils young women, aged from 18 to 25 years, who must be unmarried and of healthy constitution. Candidates, however, who are already on the staff of the Assistance may be as old as 30. Successful pupils have to sign an agreement to serve in the institutions of the Assistance for three years, or if they leave before the expiration of this term to reimburse the Assistance for their expenses during the time which they have served. During their stay at the school, after they have been definitely admitted as pupils, they get board, lodging, uniform, washing, and "coals and candles," besides a monthly payment of 10 francs the first year and of 20 francs the second year. If they pass a satisfactory examination on leaving the school they are graded as second-class nurses.

Inhalations as a Therapeutic Agent.

At a meeting of the Paris Medical Society held on Nov. 9th M. Wicar stated that medicated inhalations were by far the most efficacious treatment of all infections of the respiratory tract. In his opinion even respiratory troubles secondary to surgical operations were much less likely to prove fatal if they were treated by warm moist antiseptic inhalations.

Large Angioma of the Soft Palate Successfully Treated by Electrolysis.

On Nov. 8th, at a meeting of the Laryngological, Otological, and Rhinological Society of Paris, M. Laurens showed a cast of the soft palate and pharynx of a patient who had suffered from an angioma of those regions and who had been cured. The tumour, which was of the size of a pigeon's egg, had been reduced to practically nothing by 15 sittings for electrolysis. The operation was done in the usual way with the needle attached to the positive pole inserted into the tumour. The indifferent electrode formed by the negative pole was connected with the hand and arm by means of an arm bath of salt water. The amount of current used was 12 milliampères for ten minutes. The current was turned on and off very gradually and was reversed just before extraction to allow for loosening of the needle.

A New Preparation of Calomel for Injection.

At a recent meeting of the French Society of Dermatology and Syphilography M. Eudlitz, M. Lafay, and M. Levy-Bing showed a new preparation of calomel for injection. It differs from former preparations of calomel, as it is of a strength of 40 per cent. and it is manufactured in much the same way as grey oil of a similar strength. A special syringe must be used and only very small doses should be injected at one time. The results obtained were very good. The observers stated that 25 patients received in all 137 injections and in no case were these followed by abscess. Swelling or wheals at the site of injection were exceptional and when they did occur were trivial. In 85 injections no pain was felt, while in the remaining 52 it was very slight. The three observers conclude from this that the new preparation of calomel is superior to the old and that all mercurial injections of insoluble salts should be given in a similar state of concentration.

Chloride of Sodium in Gastric Digestion.

At a meeting of the Academy of Medicine held on Nov. 12th M. Dastre gave the results of some researches which he had made as to the influence of a chloride-free diet upon the gastric secretion. It is well known that the amount of chloride of sodium in the blood is practically constant and a man may take an excess of sodium chloride until intolerance results but the quantity of this salt in the blood remains practically the same; any excess rests in the tissues which give up to the blood the quantity necessary to preserve the normal proportion. If the gastric secretion be examined during a diet containing an excess of chloride three stages are noticeable. During the first the gastric juice is acid and contains chloride, during the second the acidity disappears but the chlorides remain, and during the third both the acids and the chlorides disappear. Pepsin is present during the first two stages.

Gunshot Wound of the Ear.

At the meeting of the Surgical Society on Nov. 6th M. Sebileau said that in cases of gunshot wound of the ear surgical intervention should be undertaken as soon as possible, for a bullet anywhere in the petrous portion was sure to set up suppuration sooner or later. As to the choice of route to be followed for extracting the ball two classes of cases must be distinguished. In the first case the ball could be seen without the use of any special apparatus and in the second either radiography or special apparatus had to be employed. If the ball was in the auditory meatus it could be extracted just like any other foreign body but if it was buried in tissues the external ear had to be turned forwards and outwards and the cartilaginous portion of the auditory meatus slit up. A ball in the tympanic cavity could sometimes be extracted without any special operation but sometimes it was necessary to do Stacke's operation. If the ball was not visible to the naked eye it might sometimes be proved by the use of a probe to be not very far below the skin and in that case it might be cut down upon directly, but sometimes it lay very deep and in that case a much more severe operation would have to be performed. Either the anterior or the posterior route could be followed, but the former involved a difficult dissection amongst very important organs while the latter route was well provided with landmarks and the operator could reach every part of the ear by this route. The only real risk in the posterior operation was cutting the facial nerve but as a rule this nerve was already paralysed by the injury.

Closure of the Medical Faculty of Nancy.

On account of various disturbances which have occurred the Faculty of Medicine of Nancy is closed until Dec. 31st.

Nov. 26th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Koch's Return.

ON Nov. 4th Professor Robert Koch arrived in Berlin on his return from East Africa, where he has for more than one and a half years been conducting researches on sleeping sickness, and on Nov. 16th a great banquet took place in

honour of the occasion. The company included nearly all his former assistants who had come from the remotest parts of Germany. Professor Löffler, Professor Gaffky, Professor Fraenkel, Professor Petruschky, and Professor Cornet were present, together with representatives of the Government, of the medical profession, and of the city. Speeches were delivered by the Minister of Education, by the Colonial Secretary who especially insisted on the importance of Professor Koch's work for the welfare of the colonies, and by Professor Gaffky, his successor as chief of the Institution for Infectious Diseases. Professor Koch, who is apparently in good health notwithstanding the trying conditions which he necessarily encountered during his stay in Africa, replied to the toasts and proposed the health of his assistants. A committee, of which Professor J. Schwalbe is the honorary secretary, has been formed for the purpose of collecting a fund in honour of Professor Koch, to be applied to the prevention of tuberculosis and particularly in support of scientific researches on the disease. The German Emperor has granted to Professor Koch the rank and titles of Real Privy Councillor and Excellency.

The Atoxyl Treatment of Sleeping Sickness.

Professor Koch has prepared a full account of his researches on sleeping sickness and it has been recently published in the *Deutsche Medizinische Wochenschrift*. He found that by injections of atoxyl the trypanosomata could be made to disappear from the lymph glands for a period of about 30 days. When patients were treated in this way for two or three months and the injections were then stopped the patients nevertheless continued to improve, so that after four or five months from the beginning of the treatment the glands had become too small to be punctured. In course of time, however, the trypanosomata began to reappear, so that Professor Koch at first believed that the efficacy of atoxyl was only temporary, but a very remarkable phenomenon was soon observed. It was, in fact, discovered that the longer the interval which had elapsed since the last injection the fewer were the trypanosomata, so that from the sixtieth day in no instance were trypanosomata present within the glands. This result was quite independent of the number of injections and of the duration of the treatment and it even happened in patients who had received only one injection of 0·5 gramme. Professor Koch is of opinion that in those cases a state of immunity was produced by the absorption of dead trypanosomata. It was at first expected that subsidence of the enlargement of the glands would mean the complete recovery of the patient, but this was not always the case, the cause being that trypanosomata continued to be present in the blood. After one injection of 0·5 gramme of atoxyl trypanosomata were recognised in the blood after five days; after two injections given on successive days the blood remained free from trypanosomata for a longer time and in some cases even for three or four months. The dose of atoxyl injected was then increased to one gramme given at intervals varying from seven to ten days. This method, however, had to be abandoned because of undesirable complications which in some instances unfortunately resulted in permanent blindness. The internal administration of atoxyl proved to be untrustworthy and so did that of other chemical compounds, such as arsenite of sodium, trypan-red, afridol blue (dichlorbenzidin), nucleogen, arsenferratin, and others. The standard treatment consisted in injections of 0 5 gramme of atoxyl given on two successive days and repeated at intervals of ten days. During the treatment in no instance were trypanosomata found in the patients. Concerning the communication of the virus Professor Koch has made a very interesting observation. In the district of Kisiba sleeping sickness was very prevalent but it was impossible to discover any specimens of glossina palpalis, the insect which conveys the parasite. On making further inquiry he ascertained that all the patients had been for some time at Uganda where glossina palpalis is present in great numbers and that they had obviously contracted the disease there. Exception must, however, be made with regard to 15 married women who suffered from sleeping sickness, although they had never left Kisiba, and the unavoidable conclusion was that the parasite was conveyed to them by marital cohabitation. It was characteristic that the three wives of a man suffering from sleeping sickness had contracted the disease. A parallel example is to be seen in dourine, a trypanosomiasis of horses which is conveyed only by copulation. A proof that the good effects of the atoxyl treatment were more or less permanent was furnished by the fact that in a great many patients who were treated and under observation for ten months no trypanosomata were during this time present in their blood. For a period of ten months, therefore, these patients were rendered incapable of communicating the disease to others. The value of the treatment is, however, not limited to this, for it may be said that in mild cases permanent recovery follows a course of treatment continued for from four to six months. Of the severer cases some recovered completely in that time but some relapsed after discontinuance of the treatment and some who believed themselves to have recovered and therefore stopped the treatment have died. The general mortality of the patients under treatment was 8 per cent. and that of the graver cases alone was 22 per cent. This is a considerable improvement, as formerly in the mission hospital of Bumangi and of Kisubi almost all the patients died after a residence of between four and five months, the exception being a few in whom the diagnosis was probably doubtful. Professor Koch recommends the following measures for preventing the spread of the disease. Great camps must be established to which the patients are to be conveyed; the camps must be in a district exempt from glossina and in the neighbourhood of villages or towns. As the patients, especially those in an early stage who themselves are not aware of their state, are unlikely to come spontaneously to the camp, the inhabitants must be visited in their dwellings and the state of their glands and their blood must be examined. Those who harbour trypanosomata must be conveyed to the camp and subjected to treatment with atoxyl for at least four months. After the end of the treatment their blood must be examined repeatedly as to the presence of trypanasomata and they must stay in the camp until the removal of all the cases of trypanosomiasis from their respective villages prevents the insect from spreading the parasite. The time necessary for that purpose is not yet definitely ascertained but may be estimated at from one to two years. Apart from the establishment of camps for the treatment of the patients other measures may be taken to avoid the spread of the disease, such as prohibition of immigration from infected countries, international treaties, &c. When an extensive area in which glossina is prevalent has few inhabitants the simplest plan would be to transfer the entire population to a more healthy region. Finally, the insects may be reduced in number by clearing the forest where they live. As they always feed on the blood of the vertebrata and in certain districts almost entirely on the blood of crocodiles which inhabit lakes and rivers these reptiles may be exterminated or at least reduced in number by the destruction of their eggs.

Nov. 25th.

THE FRANCO-BRITISH EXHIBITION, 1908.—On Nov. 21st the Duke of Argyll presided at a luncheon at which several members of the French and British press attended after having made a tour of inspection of the buildings and grounds of the Franco-British Exhibition at Shepherd's Bush, which is to be opened in May, 1908. The arrangements are well in hand and the scale and attractions of the exhibition promise to recall those of the Great Exhibition of 1851. The huge arena or stadium in which the Olympic games, amongst other sports, are to be held is capable of accommodating 80,000 people. The exhibits will be located in 20 palatial buildings, each of which presents a pleasing architectural design and is fireproof. Between the main entrance and that in Wood-lane (Uxbridge-road) there will be a series of eight spacious exhibition halls. The French committee has already secured one half of these buildings which will be devoted to the liberal arts, science, social economy, hygiene, and chemical and food industries. The machinery hall with its extensions covers 250 000 square feet of floor space and represents the largest building ever constructed for the purpose in this country. The municipality of Paris has voted a sum of £12,000 for the erection of a pavilion in which to display the archives and other records of the municipal work of that city. A gallery will be provided for the exhibition of a collection of works representing French and British art both by modern and old masters. Doubtless the exhibition will present matters of considerable interest to the medical profession. The scheme, of course, is a pleasing outcome of the *entente cordiale* existing between the two countries.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 26TH.

THE sittings of the eighty-sixth session of the General Council of Medical Education and Registration were commenced to-day at the offices of the Council at 299, Oxford-street, London, Dr. DONALD MACALISTER, the President, being in the chair.

The President's Address.

The PRESIDENT began the proceedings with his address. He said:—Although in no less than eight cases the tenure of office of members of the Council has expired during the recess, in every instance the outgoing member has been re-elected, and I have thus the satisfaction of reporting that the composition of the Council is unchanged. But I may be pardoned for noting that for the first time in our history we are able to count a Lord Mayor among our colleagues. Dr. Caton, who has won our regard and confidence for his personal and professional qualities, has by the suffrages of his fellow-citizens been raised to the chief magistracy of the City of Liverpool. It will doubtless be your wish to offer his lordship a special welcome, and to congratulate both him and the great community he governs upon the choice that has thus been made. Liverpool has sometimes been described as the English metropolis of Wales. But signs are not wanting that, in the matter of medical education at least, Wales may soon be ready to establish a national centre on its own soil. The petition and draft supplementary charter for the erection of a Medical Faculty in the University of Wales were submitted to you last year, and it was agreed that no objection should be taken to the grant proposed. The Executive Committee has had before it the statutes made by the University Court for the purpose of carrying into effect the provisions of the supplementary charter. These statutes prescribe, as conditions for graduation in medicine or surgery, (1) a curriculum of six years, whereof three at least must be spent in one of the colleges of the University; (2) previous graduation in Arts or Science, either at the University of Wales or at some British or other approved university. A provisional committee of advice, to be called the Medical Board, is to be instituted, whose duty it will be to make to the Court recommendations and reports on all matters concerning the Faculty of Medicine. The statutes provide that one member of this Board shall be appointed by the President of the General Medical Council. It is clearly intended that the new degrees shall represent a high standard of general and professional attainment. The Executive Committee has, therefore, had little difficulty in deciding that the statutes as submitted are worthy of approval. The ambition of the University of Wales to establish for its alumni professional degrees implying not only qualification but distinction in medicine deserves, in my opinion, our official encouragement. It is, of course, understood that without further legislation these degrees will not admit their holders to the privileges of registration, nor will the University which confers them be entitled to representation on this Council. But it cannot be doubted that proposals for such legislation will ere long be made, and that you will in due course be required to express an opinion upon them. The prospect of a further increase in our membership makes it necessary to have regard to the financial position of the Council. By the exercise of economy of time and money we have succeeded in reducing our expenditure; but our income, derived for the most part from registration fees, is not increasing and is not likely to increase. Ten years ago 895 medical students were registered here at the beginning of their professional course in London and the provinces. Various causes, including the raising of the standard of preliminary education, have been at work since then to reduce the number, which last year fell to 521. Though the present year has, up to the present date, shown an improvement to the extent of some 50 additional registrations, the downward tendency during the last seven years is apparent. While it is to be hoped that the efforts of the Council to improve the educational attainments of our future practitioners have not been without effect on the efficiency of those we admit to the Register, we must not ignore their inevitable tendency to reduce the number of persons duly qualified for the public service and incidentally to diminish the available resources of the Council itself. We may expect fresh light on these direct and indirect effects of our own action from the laborious analysis of statistics respecting the ages and courses of study of students recently qualified, which has been undertaken by the Education Committee under the direction of its chairman, Dr. Mackay. In pursuance of your resolution of May 30th much valuable information on these points has been furnished by the licensing bodies during the summer. Our thanks are due to the officers of these bodies and of the Council for the pains which they have taken to procure and to tabulate the necessary particulars. But to extract the true lessons from the figures and to avoid the fallacies that so easily beset inquiries of the kind will require much care and patience on the part of the Committee and the Council. Meanwhile we shall do well to think twice before we make any further important change in our recommendations in respect of professional education or examination. The results of the recently completed cycle of inspections have not yet been fully assimilated by the teaching and examining bodies; and in my judgment at least it will be wise to allow a little time to elapse before we undertake fresh advances. Consequences are not always easy to foresee and they are not infrequently other than what, with the most enlightened intentions, we may think ourselves justified in expecting. One necessary advance, however, has lately been made by the Council. I refer to the new requirements in respect of training in practical midwifery. That such an advance was opportune, if it was not overdue, appears to be generally conceded by the profession. That the advance involves practical difficulties, which in certain medical centres are not easy to overcome, is also clear. But that the difficulties are local, not universal, and that with goodwill and enterprise they *can* be overcome, is obvious from the replies of the licensing bodies to our communications on the subject. A number of these have already given effect to our recommendations and others are seriously engaged in the endeavour to do so. Here, again, we must be content to "hasten slowly." There is ample evidence that the desire to meet the needs of the case exists and is active; where the means are at present insufficient they will in course of time be provided.

Since we last met the Bills for the protection of the public by checking the abuses incidental to the practice of medicine and of dentistry by limited companies, which were introduced by Lord Hylton in the Upper House, have been further considered by Parliament. As you will remember, the Bills were framed under skilled advice and received your approval as embodying real improvements on the existing law. The Medical Bill prohibited under penalties the practice of medicine or surgery by companies. The Dental Bill sought to provide that every person who under the name of a company treated or professed to treat patients should himself be a legally qualified dentist. The Bills having passed the second reading without objection were referred to a Select Committee of the House of Lords. The Medical Bill seemed to find favour with the Committee and being reported without amendment to the House was duly passed and sent down to the Commons. The exigencies of business, however, prevented its further progress in that House and with many other measures it was dropped at the end of the session. The Dental Bill was strongly opposed in committee. Witnesses representing companies of unregistered persons objected that it was unjust to restrict practices which the present law of companies had allowed to grow up. Others on behalf of the British Dental Association urged that the Bill did not go far enough in the direction of restriction. It allowed dental companies to exist as commercial entities, though they could only act by means of dental operators who were duly qualified. The evidence has been published and is worthy of careful study. It illustrates at once the abuses which the Bill sought to remedy, the objections entertained by the officers of the Dental Association to anything short of the total suppression of companies is connexion with dentistry, and the strength of the opposition to suppression which such companies are able to offer. In the end their lordships appeared to be influenced by the arguments of the companies rather than by those of the Association. Amendments were introduced with the object of saving for a period of years the interests which existing companies alleged; but nothing was done to make the Bill more drastic

in its ultimate operation, as the officers of the Dental Association desired. Fortunately, the amendments, as drafted, proved to be unworkable; and inasmuch as, apart from this defect, they seriously diminished the protection to the public which the Bill was intended to afford, it was intimated to Lord Hylton that the approval of the Council could not be held to extend to the measure in its amended form. His lordship thereupon obtained leave to withdraw the Bill and it was not further proceeded with. Being assured that it would be your wish, I conveyed to Lord Hylton an expression of the Council's grateful appreciation of his efforts to procure, in the public interest, a useful amendment of the law and of his able conduct of the proceedings before the Select Committee. The Companies Bills Committee will meet during the session to consider what steps should next be taken to give effect to the Council's instructions on the questions referred to them. In the meantime certain cases have been decided in the courts which may have an important bearing on the subject. They indicate that the law as it stands is capable, if fully enforced, of putting down some of the abuses which were by many thought to require new legislation. In some respects the Dentists Act is more stringent than the Medical Acts; while, on the other hand, the Companies Acts are held to give less protection than was supposed to persons who seek to use their provisions for purposes misleading to the public and inimical to its interest. The Irish branch of the British Dental Association has been both active and successful in the prosecution of test cases wherein these important issues have been raised and have been settled so far as Ireland is concerned. It is much to be desired that similar cases should be brought before the courts on this side of St. George's Channel. Were they equally successful, the effect might be that the necessity for specific legislation in restriction of professional practice by dental companies would be obviated. In view of the difficulty which the Council has experienced in procuring the passage through Parliament even of Bills that are admittedly in the public interest, such a result would be particularly welcome.

Last May I referred in my address to certain decisions given in the Chancery Division of the High Court which touched upon the scope of your judgment of "infamous or disgraceful conduct in a professional respect," delivered in connexion with an inquiry into the methods adopted by certain members of a notorious dental company. The decisions in question were subsequently reversed in the Court of Appeal and when the cases were brought last week before the House of Lords the reversal was sustained. The Lord Chancellor, in giving judgment, put aside as immaterial the question whether, in the circumstances of the particular action, the order made by the Council should have been admitted in evidence or excluded. But he pronounced in forcible terms, and the other Law Lords agreed with him, that the facts proved, which were those on which the Council based its judgment, did constitute "disgraceful conduct" and "professional misconduct." Thus, although the decision of the Council was not in form reviewed by the highest tribunal, the grounds of its decision were indirectly declared to be amply sufficient to justify its sentence. The November session of the Council is in practice specially appropriated for penal business, and I regret to say that on this occasion the greater part of our time will necessarily be occupied by inquiries into cases of alleged misconduct. It would not be right that I should now discuss the details of these cases; but I may say, in general terms, that the preparation of them for your consideration has called for much anxious thought on the part of the President, legal advisers, and Penal Cases Committee. The cases include charges of "covering," of unprofessional canvassing for patients, and of offences amounting to crime or misdemeanour. All of them involve the possibility of serious consequences both to the accused persons and to the public, and in all of them the Council may be trusted to exercise its judicial functions with its accustomed impartiality and independence.

From information which has reached us from Canada it appears that the provincial authorities in Quebec have agreed to a modification of the local law which assimilates it to the provisions of Part II. of the Medical Act, 1886, and removes the difficulties in the way of medical reciprocity to which I referred in my last address. The formal notification of the change has not yet reached the Privy Council and so we shall not be required to take any official action at this session. But we may expect that before the Executive Committee meets in February next a further step may have been taken in the direction of reciprocal recognition of the medical qualifications granted in this country and in this important province of the Dominion of Canada. In the province of Nova Scotia, which has already begun to furnish us with applicants for home registration, legislative changes have been made which fulfil the expectations of the Executive Committee respecting the assimilation of the provincial curriculum to that which is in force at home. In other words, the recognition of colonial diplomas by the mother country has had once more the gratifying effect of improving the conditions of medical education beyond the borders of the United Kingdom.

Dr. LITTLE, in moving that the President be thanked for his address, said that no one could have listened to it without feeling that Dr. MacAlister had been actively engaged in watching the interests of the profession and of the Council.

Dr. NORMAN MOORE seconded the motion which was agreed to.

Commissions in the Services.

Tables showing (1) the results of the competition held on Nov. 11th, 1907, for commissions in the medical staff of the Royal Navy; (2) the results of the competition held on July 25th, 1907, for commissions in the Army Medical Service; and (3) results of the competition held in July, 1907, for commissions in the Indian Medical Service were received and entered in the minutes. The figures showed the great success of the candidates having the diplomas of the English Conjoint Board.

Fees for Committee Meetings.

Dr. PYE-SMITH moved:—

That the fees for attendance at meetings of the Executive Committee and the Penal Cases Committee should be 5 guineas a day and at meetings of the Branch Council 2 guineas a day for each member attending, his travelling and hotel expenses being also paid.

Dr. MCVAIL seconded the motion.

Mr. HENRY MORRIS asked for information on the subject. Why should a member of the Executive Committee receive 5 guineas and a member of a Branch Council only 2?

The PRESIDENT explained that the meeting of the Branch Council was purely formal as a rule. The Penal Cases Committee and the Executive Committee were called together when the Council was not sitting and the Penal Cases Committee had often long and troublesome sittings. Its members, as representing England, Ireland, and Scotland, had often to come long distances and had to sacrifice time to their duties.

The motion was then unanimously agreed to.

Registration of Colonial Dentists.

The PRESIDENT moved, and it was agreed, that a report from the Executive Committee should be received and printed in the minutes with reference to an application for registration by a colonial dentist. The gist of this report will be gathered from the concluding passage of a letter from the Registrar of the General Medical Council to the Clerk of the Privy Council, the Privy Council having been appealed to by the dentist in question with regard to his inability to obtain registration at the hands of the General Medical Council:—

The General Council have not hitherto been able to recognise that a person who is registered under the provisions of the Queensland Dentists Act, 1902, but who does not possess, so far as has been shown, any Colonial diploma or licence, is the holder of a certificate which furnishes sufficient guarantees of the possession of the requisite knowledge and skill for the efficient practice of dentistry or dental surgery. On these grounds, therefore, the application has been refused.

The Privy Council having considered the appeal of the dentist and the statements of the General Medical Council dismissed the appeal.

Mr. TOMES asked whether the decision arrived at in this case would govern medical applications that might be received from various colonial residents.

The PRESIDENT said that the principle had been established by the Privy Council and no doubt in the case of similar appeals for registration without colonial examination and licence they would be dealt with in the same way.

Unqualified Practitioners.

Dr. LANGLEY BROWNE moved:—

That this Council, deeming it to be contrary to the public interest that any person other than duly qualified practitioners in medicine and surgery should practise medicine in Great Britain and Ireland, appoint a committee to draft such amendments of the Medical Act as may be necessary to secure this prohibition and to report to the Council at the session in May.

He held that the Council should have power to take action in the case of anyone pretending to be a medical practitioner. Every other country in Europe had a law by which unqualified practising was prevented and most of our colonies

had taken similar powers. Surely the time had come when such action by the Council was necessary. The mischief done by unqualified prescribers and others in this country was very great, and although it might be said that amendments of existing Acts would be in the interest of the medical profession, still such amendments would also be in the interests of the public.

Dr. MCMANUS seconded the motion. There was a strong feeling, he said, among the general body of practitioners in the country, while they recognised the splendid work done by the Council with regard to elevating the status of the profession, that they had been ignored by the Council. He came from a district where qualified practitioners were gradually being crushed out of existence by bone-setters, prescribing chemists, and other people of that description. If the members of the profession dared to advertise themselves or break one of the unwritten laws of medical ethics they would be brought before the Council and probably struck off the Register. At the same time those other people could practise with impunity and the Council had not the power to prevent them doing so. The idea of many practitioners was this: "God is in Heaven, the General Medical Council is sitting, all is well with the profession." That was a fallacy—a greater fallacy could not possibly exist and many members of the profession felt that if the Council would only appoint a committee to go into these grievances a most deplorable state of affairs would be found to exist. Considering that qualified practitioners were hedged in with so many restrictions they ought to obtain some protection.

Dr. LATIMER appealed to the Council to give this important question its careful consideration. The colonies had strong enactments against these practices and it behoved the Council to consider whether some amendment of the Medical Act could not be devised to prohibit these practices.

Dr. NORMAN MOORE said that the people would have to be educated on this matter before the Council took the step proposed in the motion. Not only among the poor but also among the most highly educated and the wealthiest classes did these practices go on. He even feared that in those two exalted bodies which made the laws of the realm—the House of Lords and the House of Commons—there was a very large proportion of persons who sought that kind of assistance when they were ill. Although most members of the Council would be in favour of the discouragement, and if possible the suppression, of that kind of practice the Council should proceed with extreme caution in the matter.

Sir CHRISTOPHER NIXON said he did not think that the Council would ever succeed in preventing pharmaceutical chemists from giving advice to persons who asked about their cough or their toothache. He thought, however, the Council would only be doing its duty in acceding to the motion in order to protect the men on its Register. Although it might be difficult to get the Legislature to pass a broad and comprehensive measure, they might get in the thin end of the wedge and afford some protection to the qualified men on the Council's Register.

Dr. LITTLE said that he could not see any prospect of any legislation passing on the subject. All the various bodies that would be affected by it would join their wealth and power in opposition to it.

The PRESIDENT said that he was by no means sanguine that they would be successful if they proceeded to draft a new Medical Act. It would be useful and valuable, however, to have a collection of all the statutes that existed in the British Empire and in foreign countries for the prevention of practice by persons not legally qualified. On that some future action might be based.

After some other members of the Council had spoken and made suggestions for the alteration of the motion, Dr. LANGLEY BROWNE agreed to withdraw his original motion and to substitute the following:—

That a committee be appointed to report upon all the legal provisions existing in the colonies and dependencies of the Empire and in foreign countries for the prevention of medical practice by other than legally qualified persons, and to consider what steps should be taken to procure effective legislation for the same purpose in Great Britain and Ireland.

This was agreed to unanimously, and the committee to report in terms of the motion was then appointed as follows: Dr. McManus, Dr. Latimer, Dr. Norman Walker, Dr. Kidd, Dr. Saundby, Sir John Moore, Mr. Henry Morris, and Dr. Langley Browne.

Restoration to the Medical Register.

The Council having deliberated *in camerâ*, the PRESIDENT announced that the Council had resolved to direct the Registrar to restore to the Medical [Register the name of Dr. John Bate Bawden.

Resignation of the Senior Treasurer.

Dr. NORMAN MOORE moved:—

That the resignation of Dr. Pye-Smith from the office of senior treasurer be received with regret and the Council express to him its thanks for his valuable services during the past six years.

They would al feel his loss as treasurer but they hoped that he would long continue to hold other offices.

Dr. LITTLE seconded the motion which was unanimously agreed to.

Dr. PYE-SMITH expressed his thanks.

The Council adjourned till Wednesday.

WEDNESDAY, NOV. 27TH.

Penal Cases.

The sittings of the Council were resumed at its offices in Oxford-street this afternoon. Dr. DONALD MACALISTER, the President, occupied the chair. The Council took up the consideration of penal cases.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following are the names of the gentlemen who were approved in the First Professional Examination for the Licence in Dental Surgery in the subjects indicated:—

Mechanical Dentistry and Dental Metallurgy.—Harold Henry Bond, B.D.S. Sydney, D.D.S. Pennsylvania, Pennsylvania University and Royal Dental Hospital; Charles Edward Brown, Liverpool University; Hilton Ross Brown, Royal Dental Hospital; Percie Chater Charlton, D.M.D. Harvard, Harvard University and Guy's Hospital; Claude Gray Colyer, Royal Dental Hospital; Frederick James Craig, Royal Dental Hospital; Joseph Henry Creasy Davis, Royal Dental Hospital; Leonard Dinnis, Royal Dental Hospital; John Herbert Drinkall, National Dental Hospital; James Mutrie Frank, Liverpool University; Herbert Edward Fullerton, Durham University and Royal Dental Hospital; Max David Gillis, Munich and Royal Dental Hospital; Henry David Grant, National Dental Hospital; Bernard Grellier, Royal Dental Hospital; Norman Grellier, Royal Dental Hospital; Gilbert Henry Hickman, Guy's Hospital; Humphrey Francis Humphreys, Birmingham University; Arthur William Johnson, Royal Dental Hospital; Richard Gornall Miller, Royal Dental Hospital; Arthur Pusey, National Dental Hospital; Arthur Burch Rosher, Royal Dental Hospital; Theodore Scott, National Dental Hospital; Hubert Ernest Shepherd, Guy's Hospital; William Christie Tattersall, National Dental Hospital; Joseph Magnus Watson, Durham University; Hugh Parry Williams, National Dental Hospital; Douglas Herbert Walker Williamson, Royal Dental Hospital; Henry Alfred Woodhouse, Royal Dental Hospital.

Mechanical Dentistry—Charles Ernest Blows, Royal Dental Hospital; Richard Osmond Bodman, University College, Bristol; Thomas Percy Brown, Birmingham University; Neville Dutton Clarke, Guy's Hospital; Frank James Hayman, University College, Bristol; Henry Stanley Pugh, Guy's Hospital; Stanley Alfred Riddett, Royal Dental Hospital; Titus Townend, Guy's Hospital; and James Roy Williams, Manchester University.

Dental Metallurgy.—Horace Arthur Arkill, Royal Dental Hospital; Cyril Allan Collis, Royal Dental Hospital; Lionel David Frühauf, Royal Dental Hospital; George Theodore Douglas Hughes; Liverpool University; Charles Ernest McNabb, Manchester University; Walter Cecil Murray, Royal Dental Hospital; George Henry Rowley, Guy's Hospital; Bertram Charles Salter, Royal Dental Hospital; Albert John Schaefer, Guy's Hospital; and Reginald Wildblood Ward, Liverpool University.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—H. M. Jones (Section I.) and B. S Matthews (Section II.), Royal Free Hospital; J. F. McQueen (Sections I. and II.), King's College Hospital; J. M. Murray (Section I.), Royal Free Hospital and Durham; and E. H. Paterson (Sections I. and II.), Guy's Hospital.

Medicine.—M. F. Emrys-Jones (Section II.), Cambridge and Manchester; L. G. H. Furber (Sections I. and II.), St. Bartholomew's Hospital; C. P. R. Harvey (Section I.), London Hospital; B. S. Matthews (Section II.), Royal Free Hospital; J. F. McQueen (Section II.), King's College Hospital; M. Rathbone (Section I.), Royal Free Hospital; and A. L. Walters (Sections I. and II.), St. Thomas's Hospital.

Forensic Medicine.—J. Cree, Belfast; D. E. S. Davies, King's College Hospital; and C. P. R. Harvey and G. H. Rodolph, London Hospital.

Midwifery.—J. Brierley, St. Thomas's Hospital; F. S. Hawks, King's College Hospital; J. V. Steward, Manchester; and F. H. P. Wills, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: M. F. Emrys-Jones, B. S. Matthews, J. F. McQueen, G. H. Rodolph, and A. L. Walters.

UNIVERSITY OF LONDON.—At examinations held in October the following candidates satisfied the examiners:—

M.B., B.S. EXAMINATION.

Honours.—*§ Richard Henry C. Gompertz, B.Sc. (University Medal), King's College; † T. Shaddick Higgins, B.Sc., University College; § James Littleton Lawry, London Hospital; † Elizabeth Herdman Lepper, London (Royal Free Hospital) School of Medicine for Women; *Alfred Richardson University of Leeds; ‡ § Clare Oswald Stallybrass, University of Liverpool; § Leonard Henry Wootton, B.Sc., University College; and *§ Andrew John M. Wright, University College, Bristol.

* Distinguished in Medicine. † Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.

Pass.—Samuel Henry Cummings Air and Edgar Alban, Guy's Hospital; Ardeshir Pestonji Bacha, Grant Medical College, Bombay, and University College; Laurence Ball, University of Birmingham; Frederick James F. Barrington, University College; Walter Rowley Bristow, St. Thomas's Hospital; Thomas Edmund A. Carr, Guy's Hospital; Herbert Stanley Chate, B.Sc., St. Mary's Hospital; Meyer Cohen, Walter Francis Corfield, and Ernest Marshall Cowell, University College; Davis Woodcock Daniels, St. Mary's Hospital; Eleanor Davies-Colley, London (Royal Free Hospital) School of Medicine for Women; Eric Joseph De Verteuil, St. Bartholomew's Hospital; Carel C. Alexander De Villiers, Guy's Hospital; Reginald Lionel E. Downer, St. Bartholomew's Hospital; Kenneth Edward Eckenstein, St. Thomas's Hospital; Marmaduke Fawkes and Charles Henry Fielding, St. Bartholomew's Hospital; Vera Foley, London (Royal Free Hospital) School of Medicine for Women; Arthur Fothergill, University of Leeds; Ernest Cutcliffe Hadley, University of Birmingham; John Hadwen, B.Sc., St. Bartholomew's Hospital; Eric Henry Rhys Harries, London Hospital; Claud S van R. Harwood, Westminster Hospital; Herbert Hawker and George Montague W. Hodges, University College; Edward Henry Hugo, Charing Cross Hospital; Douglas Walker Hume, St. Bartholomew's Hospital; John Pratt Johnson, London Hospital; Henry Travers Jones, University College; Edgar Hartley Kettle, St. Mary's Hospital; Clement Lovell, University College; Eleanor Lowry and Emily Mary Spencer Mecredy, London (Royal Free Hospital) School of Medicine for Women; Humphrey Nockolds, University College; Evelyn Henry Bardeus Oram, St. George's Hospital; Basil Thomas Parsons-Smith and Walter Patey, St. Thomas's Hospital; John George Phillips, University College and Guy's Hospital; Jeffrey Ramsay and Samuel Shuttleworth Rendall, St. Bartholomew's Hospital; Russell John Reynolds, Guy's Hospital; William Scarisbrick, B.Sc., University of Liverpool; Shantaram R. Shirgaokar, King's College and St. Mary's Hospital; Marie Simpson and Eliza Macdonald Smith, London (Royal Free Hospital) School of Medicine for Women; Horace Elliot Rose Stephens, Victoria University; Robert Yelverton Stones, London Hospital; Arthur Arbuthnot Straton, St. Mary's Hospital; Reginald Stephen Townsend, St. Bartholomew's Hospital; Alfred Geddes Tresidder, London Hospital; Harold Sugden Vivian, Middlesex Hospital; Cuthbert Gerald Welch, London Hospital; Ruth Helen Western London (Royal Free Hospital) School of Medicine for Women; Henry Whitehead, Victoria University; Harold William Wilson, St. Bartholomew's Hospital; and John Black Ferguson Wilson, University of Leeds.

The following is the Supplementary Pass List of candidates who have passed in one of the two groups of subjects:—

Group I.—Charles Anthony Basker, Guy's Hospital; Janet Marcia Fishe, Susie Eleanor Hill, Laura Gertrude Powell, and Mona Dew Roberts, London (Royal Free Hospital) School of Medicine for Women; Frederick George Sergeant, University College; Thomas Gordon Starkey Smith, St. Thomas's Hospital; John Jerome Suckling, University College; and Cuthbert Ferguson Walker, St. Mary's Hospital and Queen's College, Belfast.

Group II.—George Norton Bartlett, Guy's Hospital; Stanley James Annear Beale, London Hospital; Alfred Bernstein and John Webster Bride, Victoria University of Manchester; Herbert Rees Davies, London Hospital; Clara Eglington and Frederick Pearson Fisher, University of Birmingham; Charles Thomas Hawkins, St. Mary's Hospital; Maurice James Holgate, St. Bartholomew's Hospital; John Birch Martin, Guy's Hospital; Alexander Morton Pollard, King's College; Ethelbert William Squire, St. Mary's Hospital; Hugh Stott, Guy's Hospital; and Arthur Lowndes Yates, St. Bartholomew's Hospital.

(The names of students who have now completed the M.B., B.S. Examination do not appear in this list.)

B.S. EXAMINATION (*for Students who graduated in Medicine in or before May, 1904*).

Pass.—David Morgan Hughes, University College.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

R. Counihan, B.Ch., &c., Univ. Dub.; R. W. Haslett, B.Ch., &c., Roy. Univ. Irel; D. L. Harding, L.R.C.S.I., &c., 1900, Captain R.A.M.C.; M. G. McElligott, L.R.C.S.I., &c.; and G. A. Walpole, L.R.C.S.I., &c.

The following candidates have passed the primary part of the Fellowship examination:—

H. W. A. Kay, Student R.C.P. & S.I.; and T. S. Reddy, L.R.C.S. Edin., &c.

TRINITY COLLEGE, DUBLIN.—At the Final Medical Examination (Part II.) held in Michaelmas term the following candidates were successful:—

Surgery.—George F. Graham, Robert A. Askins, Wilfred J. Dunn, Julian B. Jones, Bethel A. H. Solomons, Thomas P. S. Eves, Henry D. Woodroffe, Francis O'B. Kennedy, James D. K. Roche, Wilfred L. Hogan, Henry J. Keane, Archibald L. Robinson, James R. Yourell, Joseph H. Elliott, and James G. M. Moloney.

Midwifery.—Gordon A. Jackson Johannes C. Pretorius, George B. M'Hutchison, Henry H. Ormsby, George Halpin, Wilfred J. Dunn, William E. Hopkins, Samuel F. A. Charles, Gerald G. Mecredy, Herbert V. Stanley, Dixie P. Clement, Thomas Ryan, Ernest C. Lambkin, William H. Sutcliffe, James R. Yourell, and James E. M'Causland.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* In consequence of severe illness Dr. Liebreich, Professor of Materia Medica, will shortly resign his chair.—*Bonn:* Dr. Machol has been recognised as *privat-docent* of Surgery and Dr. O. Prym as *privat docent* of Medicine.—*Erlangen:* Dr. Jamin, Extraordinary Professor, has been appointed Professor of Medicine and Director of the University Children's Clinic; the new professor only qualified in 1897. Dr. Schittenhelm of Göttingen has been appointed Extraordinary Professor of Diagnostics and of the History of Medicine in Professor Jamin's place.—*Freiburg:* Dr. de la Camp of Erlangen has been appointed Professor of Medicine and Director of the Medical Policlinic.—*Jena:* Dr. P. Linke has been recognised as *privat-docent* of Psychology.—*Königsberg:* Dr. Voss, *privat-docent* of Otology in this University, has been appointed to the newly established post of Director of the Aural Clinic in the Frankfort Municipal Hospital.—*Kiel:* Dr. Rudolf Goebel, *privat-docent* of Surgery, has been granted the title of Professor.—*Leipsic:* Dr. Wolfram has been recognised as *privat-docent* of Ophthalmology.—*Montpellier:* Dr. Ranzier, Assistant Professor, has been promoted to the chair of General Pathology and Therapeutics.—*Munich:* Dr. K. Baisch has been recognised as *privat-docent* of Gynæcology.—*Strasburg:* Dr. Martin Gildemeister of Königsberg has been recognised as *privat-docent* of Physiology and Dr. Stargardt of Berlin as *privat-docent* of Ophthalmology.

ROYAL DENTAL HOSPITAL OF LONDON.—The annual dinner of the staff and past and present students of the Royal Dental Hospital of London was held at the Hôtel Métropole on Nov. 23rd, Mr. E. Lloyd Williams occupying the chair. There was a capital attendance and a feature of the speeches was the expression of loyalty to their hospital evinced on the part of those speakers connected either in the past or the present with the institution. In proposing the toast of "The Past and Present Students" Mr. Lloyd Williams gave an interesting retrospect of the dental student's career and pointed out the strenuous efforts now required by the capable dental surgeon if he would fit himself for his profession. He announced that a dental section had been formed of the Royal Society of Medicine. Referring to the mechanical work of the dental surgeon he said that this involved skill just as much as any other part of his work. He urged upon the students to acquire all the knowledge that they could and not just that smattering which would enable them "to scrape through" their examinations, and he asked them in their practice to treat rich and poor alike with the same consideration. In responding to this toast Mr. G. E. Macdonald, for the past students, said that he and his colleagues were always grateful for the excellent training which they had received at the hospital. Mr. W. Thew, a present student, expressed himself in similar terms. Mr. F. G. Hallett, in proposing the toast of "The Hospital and School," referred to the excellent equipments of the school and the teaching capacity of the staff. He said that much of the success of the hospital and school could be attributed to their careful selection in the past of the deans whose influence and work had made for progress. Mr. R. Winch, a governor of the hospital, responded to this toast and endorsed every word that Mr. Hallett had spoken. He urged the student to support his hospital and concluded by suggesting that the insurance offices might help, for nothing was more certain than that life was prolonged if attention was given to the teeth. The dean, Mr. J. F. Colyer, briefly reviewed the progress of the school. He referred to the fact that they had recently appointed a clinical pathologist to deal with clinical matters and their hope was that soon an x ray department would be inaugurated. The post-graduate course was well attended. They proposed shortly to publish a hospital gazette to be issued in quarterly numbers. The present year, he thought, saw in the school and hospital a more efficient teaching machine than before. Mr. J. G. Turner

proposed the toast of "The Visitors," to which Dr. J. Galloway replied, referring to the excellent financial support which, as a rule, the provincial schools received from local people. He congratulated them upon their success and heartily wished them continued prosperity. Mr. Morton A. Smale proposed "The Chairman" who expressed his appreciation of the cordiality with which the toast was received. A musical programme added to the enjoyment of the proceedings.

THE ROYAL SOCIETY OF MEDICINE.—The first ordinary meeting of the Fellows of this society will be held at 20, Hanover-square, W., on Dec. 3rd, at 5.30 P.M. This meeting will be more or less formal and is mainly for the election of the large number of candidates for the Fellowship—we understand upwards of 100. The President, Sir William Selby Church, will probably give a short address.

THE ELECTION TO THE SENATE OF THE UNIVERSITY OF LONDON.—The election for the vacancy on the Senate of the University of London was held on Thursday, Nov. 21st. The candidates were Professor E. H. Starling, Dr. Norman Moore, and Mr. F. C. Wallis. In the first ballot Professor Starling obtained the suffrages of 118 members of the Faculty out of 237, as against 77 votes given for Dr. Norman Moore and 42 for Mr. Wallis, thereby missing by one vote only an absolute majority over his opponents at the first ballot, and in the second ballot he won the seat.

SOCIETY OF ARTS.—On Nov. 25th, at the Society of Arts, Mr. Conrad Beck delivered the first of a series of four Cantor lectures on the Theory of the Microscope. After discussing the formation of real and virtual images by convex lenses and the use of such lenses as simple magnifiers, he said that the distance of the virtual image from the lens could not be determined and that the conventional way of estimating the magnifying power of a single lens was the quotient of 10 inches divided by the focal length of the lens for parallel rays. There was no probability that a better method for this purpose would be discovered. It answered well enough for those who had normal vision but myopic persons thought the result too high. He then explained at much length and with the aid of lantern pictures the theory of Gauss, by which any complex system of lenses might be completely represented by a single lens successively occupying two positions called respectively the equivalent planes for rays entering and emerging from the system. In introducing the subject of compound microscopes he said that their eye-pieces might be equivalent either to a convex or to a concave lens. The former pattern was the usual one. With the latter the object was further from the object-glass than with the former and the field of view was erect, but the arrangement had certain disadvantages and existed only in the form of the so-called Brucke's lens.

IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—The autumn general meeting of this association was held at the Hotel Cecil, Strand, London, on Nov. 27th, under the presidency of Sir John William Moore. In addition to the ordinary business, the formation of a Northern branch to include Manchester, Liverpool, Leeds, Sheffield, and other places near to them was considered, the meeting approving of the proposal and leaving the details to be worked out by the council. At the dinner which followed some 200 members and guests, including ladies, were present, among them being Sir John William Moore who presided, and Lady Moore, Sir James Digges La Touche, K.C.S.I., and Lady La Touche, Sir Shirley F. Murphy and Lady Murphy, Surgeon-General Sir Thomas J. Gallwey, K.C.M.G., C.B., Sir John Cameron Lamb, Sir Dyce Duckworth and Lady Duckworth, Mr. and Mrs. David Arnott, Dr. James Little, Dr. F. T. Roberts and Mrs. Roberts, General William Carnell, Dr. Jameson J. Macan, Dr. S. Browne, and Dr. R. Fegan. The chief feature of the evening was the presentation of the Arnott memorial medal to Lieutenant-Colonel Sir Havelock H. R. Charles, K.C.V.O., C.B., I.M.S. The Arnott medal was founded in 1900 by Mr. David Arnott in memory of the late Sir John Arnott and is awarded annually for some deed of heroism or distinguished service or for some act performed in discharge of medical duties in civil life. The medal was awarded to Lieutenant-Colonel Sir Havelock Charles for the introduction of improvements in the surgical treatment of diseases in India. The toast list included "Our Defenders," proposed by Dr. Little and responded to by Dr. Browne and General Carnell, a veteran of the Indian Mutiny; "Our Guests," proposed by Dr. Fegan and responded to by Sir James La Touche and Sir Shirley Murphy; and "Ourselves," proposed by Dr. Frederick Roberts and responded to by the President. The charm of a pleasant evening was enhanced by the sympathetic rendering of some well-known Irish songs.

LONGEVITY.—Mr. D. Howell of Leonard Stanley, near Stroud, recently completed his 102nd year.

BRISTOL HEALTH COMMITTEE.—At the meeting of the health committee of the Bristol city council held on Nov. 19th Mr. Colston Wintle, M.R.C.S. Eng., L.R.C.P. Lond., was elected chairman.

IT has been decided by the Committee of Management of the Hospital for Women, Soho, London, W., on the recommendation of the medical committee, to admit qualified medical women to the practice of the hospital.

MEDICAL MAGISTRATE.—Mr. Alfred Charles Augustus Packman, M.D. Durh., M.R.C.S. Eng., has been placed on the Commission of the Peace for the city of Rochester.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Frank Heuel, formerly lecturer on surgery in the University and Bellevue Medical College, New York.—Dr. Hache, professor of histology in the Rheims Medical School.—Dr. Emanuel Engel, one of the most popular of the Carlsbad physicians. In early life he was much interested in political matters and was identified with the so-called Young Czech party.—Dr. Folet, professor of clinical surgery in the University of Lille and corresponding member of the Paris Academy of Medicine.—Dr. J. M. French, formerly lecturer on medicine in the Ohio Medical College, Cincinnati.—Dr. J. C. Simes, formerly professor of urinary and sexual diseases in the Philadelphia Policlinic.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. J. Nield Cook, M.R.C.S. Eng., L.R.C.P. Lond., who has just retired from the position of health officer of the Calcutta municipality, was presented on Oct. 26th with an address and a silver tea service by the officers of the health department. The service, of typical and handsome Calcutta silver work, was inclosed in a beautiful plate chest. On the salver was the following inscription: "To Dr. J. Nield Cook, Health Officer, Calcutta Corporation, from January, 1898, to October, 1907. Presented on his retirement by the officers of the department as a token of esteem, for his professional ability, appreciation of his impartial administration, and admiration of his independence of character."—At the meeting of the Court of the University of Wales, held at Aberystwyth on Nov. 22nd, Sir H. Isambard Owen, M.D. (the senior deputy-chancellor), was presented with a Hirlas horn as a wedding present. The horn, which is in three pieces, is mounted on a Welsh dragon and is from a design by Mr. Goscombe John. The presentation was made by Principal Roberts at an informal meeting presided over by Sir J. Hills-Johnes. Sir Isambard Owen suitably acknowledged the gift.

SLEEPING SICKNESS: FORMATION OF A COMMITTEE IN LIVERPOOL.—An independent Sleeping Sickness Committee has been formed in Liverpool to collect information dealing with sleeping sickness and to stimulate research into the cause, method of transference, and cure of sleeping sickness and to publish from time to time communications with reference to this disease. The following gentlemen are members of the committee:—Sir Alfred Jones, K.C.M.G., chairman; the Lord Mayor of Liverpool (Dr. Richard Caton); Professor B. Moore, director of the biochemical department, University of Liverpool; Professor Salvin-Moore, director of the cytological department, University of Liverpool; Professor H. E Annett, director of the comparative pathology department, University of Liverpool; Professor C. S. Sherrington, director of the physiological department, University of Liverpool; Dr. J. W. W. Stephens, Walter Myers lecturer in tropical medicine, University of Liverpool; Dr. Anton Breinl, director Runcorn Research Laboratories; Dr. W. T. Prout, C.M.G.; Mr. Arthur J. Evans; Dr. M. Nierenstein, J. W. Garrett International Fellow, University of Liverpool; and Dr. J. L. Todd of Montreal. Corresponding secretaries: Professor Sir Rubert Boyce, F.R.S. (Dean of the Liverpool School of Tropical Medicine), and Mr. A. H. Milne, B.A.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BENNETT, NORMAN G., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., L.D.S., has been appointed Dental Surgeon to the Royal Dental Hospital of London.

BUNCH, J. L., M.D., B.S. Lond., has been appointed Physician in Charge of the Skin Department at the North-Eastern Hospital for Children.

CAMPBELL, A. SYDNEY, M.B, Ch.B. Edin., L.R.C.S. Edin., has been appointed Honorary Assistant Surgeon to the Dundee Royal Infirmary.

CLARKE, H. M., M.B., B.C. Camb., has been appointed Clinical Assistant to St. John's Hospital for Diseases of the Skin.

FINUCANE, MORGAN I., M.R.C.S., L.R.C.P. Lond., L.S.A., Barrister-at-Law, has been appointed Government Medical Referee for County Court District No. 48 under the Workmen's Compensation Act, 1906.

FRIEND, G. E., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

GOSSE, PHILIP, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Essex and Colchester Hospital.

GRIFFITH, T. WARDROP, M.D. Aberd., has been appointed Honorary Consulting Physician to the Leeds Public Dispensary.

HOLLAND, EARDLEY L., M.D. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon for Diseases of Women to the Metropolitan Hospital.

HOLLINGS, H. T., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Snerburn District of the county of York.

JAMES, W. W., F.R.C.S. Eng., L.R.C.P. Lond., L.D.S., has been appointed Assistant Dental Surgeon to the Royal Dental Hospital of London.

KERR, CHARLES, M.B., C.M. Edin., has been appointed Honorary Assistant Physician to the Dundee Royal Infirmary.

KNIGHT, H. S., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed Out-patient Resident Medical Officer at Queen Charlotte's Lying-in Hospital.

MACNALTY, A. S., M.B., B Ch. Oxon., has been appointed Casualty Medical Officer to University College Hospital.

MAYNARD, HEATH P., M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Evelina Hospital for Sick Children.

MICHIE, W. A., M.D. Aberd., M.R.C.S. Eng., has been appointed Clinical Assistant to St. John's Hospital for Diseases of the Skin.

MILLER, GEORGE W., B.Sc., M.B., Ch.B. Edin., has been appointed Honorary Assistant Physician to the Dundee Royal Infirmary.

MORTON, JOHN, M.B., M.S. Glasg., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

NOCKOLDS, STEPHEN, M.B., B Ch. Oxon., has been appointed Deputy Public Vaccinator for the 3rd and 6th Districts by the St. Columb (Cornwall) Board of Guardians.

TELLING, W. H. MAXWELL, M.D., B.S. Lond., M.R.C.P. Lond., has been appointed Honorary Demonstrator of Medical Pathology in the University of Leeds.

TYLECOTE, F. E., M.D. Vict., M.R.C.P. Lond., has been appointed Clinical Assistant to St. John's Hospital for Diseases of the Skin.

WATSON, GEORGE W., M.D. Lond., has been appointed Honorary Physician to the Leeds Public Dispensary.

WHITWORTH, ARTHUR W. T., M.B., Ch.B. Vict., has been appointed Senior Resident Medical Officer at the Guest Hospital, Dudley.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Surgical Officer. Salary £80 per annum, with board, washing, and attendance

BOLINGBROKE HOSPITAL, Wandsworth Common.—Junior House Surgeon. Salary £75, with board, lodging, and washing.

BRISTOL GENERAL HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board, residence, &c.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Three Registrars and two Assistant Anæsthetists, all honorary. Also non-resident House Surgeon. Salary 40 guineas per annum.

DUNDEE ROYAL INFIRMARY.—Cancer Research Investigator.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Pathologist and Registrar. Salary £100.

EXETER ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

HOMES FOR LITTLE BOYS, Farningham and Swanley, Kent.—Medical Officer, unmarried. Salary £100 per annum, with board, residence, and laundry.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Junior Resident Medical Officer, unmarried, for six months. Salary £50 per annum, with full board.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—House Surgeon, also Assistant House Surgeon (females). Salary of former £50 per annum and of latter £40 per annum, with board and laundry.

INDIA OFFICE, LONDON.—Sixteen Commissions in the Indian Medical Service

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £80 per annum.

LIVERPOOL STANLEY HOSPITAL.—Senior House Surgeon. Salary £90 per annum, with board, residence, and washing.

LONDON COUNTY COUNCIL.—Lecturers to Day and Evening Classes in First Aid, Home Nursing, Health and Infant Care.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer for the In-patient Department, Bowdon, Cheshire. Salary £100 per annum, with board, apartments, washing, and railway contract. Also Assistant Medical Officer for the New Crossley Sanatorium. Salary £100 per annum, with board, apartments, and laundry.

MANCHESTER UNIVERSITY.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

MEDICAL MISSION HOSPITAL (SETTLEMENT OF WOMEN WORKERS, Canning Town.—Assistant Doctor (female) for six months. Board, residence, and laundry provided.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary £80 per annum, with board, residence, and laundry.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

OLDHAM UNION.—Public Vaccinator.

PADDINGTON INFIRMARY AND WORKHOUSE.—Second Assistant to the Medical Superintendent of the Infirmary and Medical Officer of the Workhouse for six months. Salary at rate of £72 per annum, with board, lodging, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Medical Registrar, Surgical Registrar, Clinical Assistants, and Junior Obstetric Assistant (resident), all females.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Bacteriologist. Salary at rate of £120 a year, with lunch.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Medical Superintendent of the Dreadnought Hospital. Salary £200 per annum, with board. Also Surgical Registrar at the Dreadnought Hospital. Salary £50 per annum, with luncheon and tea.

SHEFFIELD ROYAL HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary £50 per annum, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Physician to Out-patients.

WANDSWORTH UNION INFIRMARY, St. John's-hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 per annum, with board, lodging, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Physician, unmarried. Salary £65, rising to £75, with board, residence, &c.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Conisborough, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

BODINGTON.—On Nov. 26th, at Southgate-street, Winchester, the wife of A. E. Bodington, M.D., of a daughter.

BOYER.—On Nov. 20th, at Temperley, Buenos Ayres, Argentine Republic, to Mr. and Mrs Louis J. Boyer, a son. (By cable.) Australian papers, please copy.

ELLIS.—On Nov. 19th, at King Henry's-road, South Hampstead, N.W., the wife of Captain W. F. Ellis, R.A.M.C., of a son.

HEBB.—On Nov. 25th, the wife of Richard Grainger Hebb, M.D., F.R.C.P., of a daughter.

MATTHEWS.—On Nov. 22nd, at the Northern Hospital, Winchmore Hill, N., the wife of Charles E. Matthews, M.D., of a daughter.

MARRIAGE.

EMERSON—SHELMERDINE.—On Nov. 20th, at Holy Cross Church, Pershore, by the Rev. J. H. Bridgwater, Vicar of Holy Cross, assisted by the Rev. Canon Duke and the Rev. H. Francis, Herbert Bree, son of M. S. Emerson of Norwich, to Edith Mildred, second daughter of the late Rev. Nathaniel Shelmerdine, formerly Rector of Great Comberton, Pershore.

DEATHS.

CLARK.—On Nov. 23rd, at Bellevue, Carshalton-road, Sutton, Arthur William Clark, M.R.C.S. Eng., L.R.C.P. Lond., aged 48 years.

HASARD.—On Nov. 20th, at Melbourne, Derbyshire, John Hasard, M.R.C.S., L.S.A., aged 63 years.

MURRAY.—On Nov. 25th, at Manchester-square, W., Hubert Montague Murray, M.D., F.R.C.P., aged 52 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

FRIENDLY SOCIETIES AND THEIR MEDICAL OFFICERS.

A CORRESPONDENT has forwarded to us four issues of the *Eastern Daily Press*—namely, those of Nov. 5th, 14th, 15th, and 16th. In the issue of Nov. 5th appeared an annotation by "Our Friendly Societies Editor" concerning the "relationship between the doctors and the friendly societies," pointing out that in Norwich the relationship was not strained but that in the North of England, and especially in Preston, there was a good deal of friction. So much so is this the case, says the Friendly Societies Editor, that owing to the Preston friendly societies' medical officers having combined to raise their charges by 25 per cent. the societies have determined on a counter combination. One society is stated to have "already its own salaried doctor and has announced its willingness to take in the members of other friendly societies for medical treatment at 2*s.* 10*d.* per member per year for four years and 2*s.* 4*d.* afterwards. The new terms of the combining doctors are 2*s.* 6*d.* per year for juveniles and 4*s.* for adults." The editor goes on to say that he does not think that the medical men have been overpaid, but that he can understand the resentment shown by the societies. He then quotes with approval some remarks by a writer in the *Leeds Weekly Budget*, who says that the medical men are to blame, that formerly they were glad to get a club, but that of late the profession has become overcrowded. In answer to this, a correspondent of the *Eastern Daily Press*, signing himself "Justitia," writes in the issue of Nov. 14th pointing out that medical officers of friendly societies desire a rise owing to the great increase in the cost of medical education, surgical appliances, and expenses of living. Wages have risen but the medical officers' fees remain much the same as in the past. In the issue of the *Eastern Daily Press* for Nov. 16th the Friendly Societies Editor has a long letter in which he argues that the Medical Institute of Norwich pays its medical men a net income of £230 with £25 for rent. Further, "these gentlemen have no establishment charges, no drugs to buy, no surgical appliances to furnish, no charge for horse-keeping, and no bad debts. Yet 3*s.* per member is found to be ample to provide the lot." All we can say is that if the pay mentioned is not exceptional but is the average pay for a year, the medical officers of the Norwich Medical Institute are better off than many of their brethren. As a rule, however, the "club doctor" has, we believe, to provide his own dressings and they cost no little sum.

AN INCOME-TAX GRIEVANCE.

To the Editors of THE LANCET.

SIRS,—I have been in practice in a small country town for a short time and have been assessed by the surveyor of taxes at a much higher figure than I earn. On my writing to him he informs me that I must bring my case before the commissioners at the local court. Now one of the commissioners is a fellow practitioner in the town. My solicitor writes: "It is, as you say, an undoubted hardship that one medical man should be enabled as a commissioner of taxes to make himself cognisant with all the details of his rival's practice."

I am, Sirs, yours faithfully,

Nov. 25th, 1906. MEDICO.

*** Unless our correspondent is claiming exemption he should appeal to the Special Commissioners instead of to the General Commissioners. This would obviate the difficulty which he raises.—ED. L.

BODIE AGAIN.

THE irrepressible "Dr." Bodie was, we learn from the *Rhondda Leader* of Nov. 23rd, about to favour Tonypandy with a visit this week. The *Rhondda Leader* gives him a half-page obvious advertisement, a third of a column is devoted to setting forth the virtues of his "Electric Liniment," and a whole column all but 11 lines is given up to an announcement of his coming to Tonypandy, to what a wonderful person he is, and to a testimonial from a person signing himself Daniel Hughes, Minister, Church of Christ, Upper Parliament-street, Liverpool. This last column is written as an editorial. Quackery seems to flourish in the Rhondda if we may judge by sundry other advertisements dealing with herbal recipes, lightning cough cures, bile beans, zambuk, Mrs. Slater who professes to cure women's inward weakness without operation or inward instruments, and Jalal Deen, the Indian oculist and piles specialist. The popular belief in all forms of quackery from "Christian Science" down to electric belts is amazing and would be comic were it not so serious. But so long as an enlightened Government, whether Tory or Whig, permits quackery we must make allowances for the innate folly of human nature.

THE REMOVAL OF TATTOOING.

PEOPLE who in their youth have been foolish enough to submit to tattooing are often anxious, when they have attained to years of discretion, to have the marks obliterated. In the *Archives de Thérapeutique* for May Dr. Variot describes his method of procedure in such cases. In the first place the site should be freely laved with a concentrated solution of tannin, while wads of cotton-wool steeped in the same solution are made ready in order to insure asepsis and to arrest the flow of blood. Secondly, the operator, employing an instrument resembling that used by tatooers, which consists of three or four fine needles fixed evenly in a suitable handle, should transfix the tattooed skin in an oblique direction and by a turn of his wrist bring the points of the needles out through the epidermis. Thirdly, as soon as the surface of the design has been thoroughly pricked and torn a pencil of nitrate of silver should be rubbed over it pretty freely. Lastly, the resulting superficial eschar should be sprinkled with powdered tannin and left undisturbed and unwashed for about ten days. The dermis will then fall, bringing with it the tattooing and leaving only a red mark which speedily blanches and before long disappears almost entirely. There should be no suppuration.

THE LATE DR. J. P. MAGUIRE.

To the Editors of THE LANCET.

SIRS,—In sending you the concluding list of subscribers to the Maguire Fund, which is now closed, I wish to repeat my expressions of thanks to you and to the generous subscribers. The fund realised in all £83 12*s.* 6*d.*, a sum sufficient for all present requirements.

I am, Sirs, yours faithfully,

Ballinrobe, co. Mayo, Nov. 25th, 1907. R. B. MAHON.

	£	*s.*	*d.*
Amount already acknowledged	57	15	0
Miss Knox, Cranmore, Ballinrobe	1	0	0
Dr. T. Houghton Mitchell, Ambleside ...	1	1	0
Major G. H. Frost, I.M.S., Bakloh, Punjab	1	0	0
Dr. W. E. Humble, Corfe Castle, Dorset	0	5	0
Dr. J. Mills, County Lunatic Asylum, Ballinasloe	1	0	0
*Mr. J. F. Elliott, Verulam, Natal	1	11	6
	63	12	6
Disbursed	13	3	6
Balance unexpended to date	50	9	0

* Mr. Elliott, with kind forethought, wishes 10*s.* 6*d.* to go to the little boy as a Christmas present.

DIAGNOSIS BY FINGER-NAILS.

A CORRESPONDENT forwards the following letter, which he received from Budapest, for the consideration of our readers:—

Dear Sir!—Some time ago I read in the papers about a London physician by name of "Dr. Blake," I believe, who owns a system of *diagnose from the finger nails*.

We have a man here in Hungary who is reading people's diagnose from their finger nails with a perplexing accuracy that borders hard on second sight!

I have observed this man and his doings on people up to the highest stands for years and taken such an interest in the case that I am anxious to get into contact with your "Dr. Blake," in order to correspond with him on the subject.

I don't know if I am addressing this to the right place, but I certainly hope that you will have the kindness to assist me in my endeavour to find out this gentleman. My letter to him came back as insufficiently addressed.

If such physician exists thereabouts at all you will greatly oblige me by forwarding to him these lines. If not, please inform me of it in a few words.

With most sincere thanks beforehand, I am, dear Sir, yours very respectfully,

Budapest, Hungary, 25 Oct., 1907.

M.A.—We do not agree with our correspondent. Treatment by correspondence must always be dangerous and unscientific even though in an occasional case good rather than harm may follow upon obedience to the written advice.

F. W. Thomas.—The subject has not been discussed at length in any particular issue of THE LANCET for our readers, who are members of the medical profession, have no need of such a debate.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received.—*Rhondda Leader, Surrey Advertiser, Eastern Daily Press, North Mail, Daily Telegraph, Newcastle Chronicle, Kent Herald, Pall Mall Gazette, Irish Independent, Newcastle Chronicle, Furniture Record, Notts Evening News, Manchester Dispatch, Daily Chronicle, The Tribune, Southport Guardian, Manchester Daily Dispatch, Montreal Star, Glasgow Evening Times, Bristol Times, Peebles Advertiser, Bradford Telegraph, Wolverhampton Chronicle, Farm and Home, Morning Leader, Veterinary Record, East Anglian Times, Richmond Gazette, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (4th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30). P.M.

THURSDAY (5th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golder-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (7th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (2nd).—ROYAL SOCIETY OF MEDICINE (EPIDEMIOLOGICAL SECTION) (20, Hanover-square, W.).—8.30 P.M.: Paper:—Dr. A. Thompson and Mr. Haffkine: Plague.

SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M.: Cantor Lecture:—Mr. C. Beck: The Theory of the Microscope.

TUESDAY (3rd).—ROYAL SOCIETY OF MEDICINE (20, Hanover-square, W.).—5.30 P.M.: General Meeting of Fellows. Address:—The President. Election of Fellows.

ROYAL SOCIETY OF MEDICINE (PATHOLOGICAL SECTION) (London Hospital Medical College, E.).—8.30 P.M.: Papers:—Dr. R. Howard: Extensive Congenital Absence of Muscles (demonstration).—Mr. F. W. Twort: (1) A New Double Stain (demonstration); (2) Cancer in Mice.—Dr. A. Ledingham and Dr. J. C. G. Ledingham: Typhoid Carriers.—Dr. H. M. Turnbull: Regeneration in Cirrhosis of Liver and its Relation to Cancer (demonstration).—Dr. J. Craw: On the Grain of Filters (demonstration).—Dr. W. Bulloch: Coli-cystitis treated by Inoculation.

WEDNESDAY (4th).—ROYAL SOCIETY OF MEDICINE (NEUROLOGICAL SECTION) (20, Hanover-square, W.).—8.30 P.M.: Papers:—Dr. J. S. Collins: On Certain Peculiarities of Intra-cranial Gummata.—Dr. F. E. Batten and Dr. G. Holmes: Nervous System of a Dog with Ataxia.—Dr. T. G. Stewart: Four Cases of Tumour of the Fourth Ventricle.—Dr. E. F. Buzzard: Case of Tubercle of the Sixth Nucleus.

THURSDAY (5th).—NORTH-EAST LONDON CLINICAL SOCIETY (Prince of Wales's Hospital, Tottenham, N.).—4.15 P.M.: Clinical Cases.

FRIDAY (6th).—ROYAL SOCIETY OF MEDICINE (LARYNGOLOGICAL SECTION) (20, Hanover-square, W.).—5 P.M.: Cases and Specimens will be exhibited by Dr. C. Potter, Dr. J. Horne, Mr. A. Evans, Mr. H. Tilley, and Mr. H. Barwell.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Miller Hospital, Greenwich, S.E.).—8.45 P.M.: Purvis Oration: Dr. R. Russell: The Diagnosis of Organic from Functional Affections of the Nervous System. Conversazione.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—8.30 P.M.: Papers:—Dr. M. Moullin: Treatment of Uterine Fibroids.—Mr. S. Headley: Chronic Appendicitis in Women.

CHILD-STUDY SOCIETY (Parkes Museum, Margaret-street, W.).—8 P.M.: Lecture: Prof. J. Edgar: Imitation and Individuality in Children.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M.: Paper:—Dr. W. J. McCardie: Status Lymphaticus. Adjourned Discussion on Mr. H. Hilliard's paper.

SATURDAY (7th).—ROYAL SOCIETY OF MEDICINE (OTOLOGICAL SECTION) (20, Hanover-square, W.). 10 A.M.: Cases, &c., will be shown by Mr. S. Scott, Mr. A. H. Cheatle, Mr. H. Tod, Mr. R. Lake, Mr. M. Yearsley, Dr. W. Milligan, Mr. L. A. Lawrence, and Dr. W. H. Kelson.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (2nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon: Lecture:—Dr. Low: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Edwards: Surgical Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. G. Pernet: Clinique. (Skin.) 5.15 P.M.: Lecture:—Mr. P. W. G. Sargent: The Surgical Treatment of Infantile Paralysis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie); 4.30 P.M.: Medical In-patient (Dr. A. J. Whiting).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 3.15 P.M.: Special Lecture:—Treatment of Urethral Stricture.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—9 A.M.: Operations. 2.30 P.M.: In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coates).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Senile Degeneration, Ephelis, Chloasma Xeroderma Pigmentosum, Hydroa Vacciniforme.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY (Leicester-square, W.C.).—5.30 P.M.: Mr. J. G. Turner: The Etiology of Palatal Deformities.

KING'S COLLEGE (UNIVERSITY OF LONDON) (Physiological Theatre, King's College, Strand, W.C.).—4.30 P.M.: Lecture: Dr. O. Rosenheim: The Borderland of Animal and Vegetable Chemistry (Proteins, Lecithins, Pigments, &c.).

TUESDAY (3rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Low: Beriberi.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. Mackenzie: Clinique. (Medical.) 5.15 P.M.: Lecture: Dr. M. Dobbie: Swedish Medical Gymnastics, their Application in the Treatment of Muscle and Joint Affections, Fractures, and Deformities.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Clinique:—10.30 A.M.: Medical Out-patient (Dr. A. G. Auld). 2.30 P.M.: Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M.: Demonstration:—Dr. MacDonald: Pathological.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. A. Turner: Muscular Atrophy.

WEDNESDAY (4th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations. Dr. D. Robinson: Diseases of Women. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. C. Ryall: Clinique. (Surgical.) 5.15 P.M.: Lecture.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Acanthosis Nigricans.

THURSDAY (5th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Keetley: Plastic Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. J. Berry: The Treatment of Hip Disease in its Later Stages.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M.: Medical In-patient (Dr. G. P. Chappel).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. G. Rankin: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 2.15 P.M.: Special Lecture:—Progressive Muscular Atrophy.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Morison).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Fungous Diseases of the Hair. I., Hyphogenic Sycosis; II., Tinea.

CHARING CROSS HOSPITAL.—3 P.M.: Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M.: Demonstration:—Mr. Daniel: Surgical (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Dr. Batten: The Treatment of Infantile Paralysis.

HOSPITAL FOR NERVOUS DISEASES (Welbeck-street, W.).—5 P.M.: Lecture: Dr. E. Macnamara: Epilepsy.

FRIDAY (6th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. S. Taylor: Treatment of Common Maladies.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. R. Lake: Clinique. (Ear.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—10 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—3 P.M.: Clinical Lecture:—Dr Whitfield: Psoriasis (illustrated).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Mr. Armour: Spinal Caries.

SATURDAY (7th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays Dr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Hyphomycetic Infections, Animal Parasites.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 28th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 22	30·18	E.	...	48	47	36	41	42	Foggy
,, 23	29·69	S.W.	0·15	69	50	41	45	45	Raining
,, 24	29·80	W.	...	67	48	35	36	37	Fine
,, 25	29·44	N.W.	0·09	44	43	37	41	43	Cloudy
,, 26	29·20	E.	0·20	57	57	38	43	43	Raining
,, 27	29·31	S.	0·49	63	53	43	48	49	Cloudy
,, 28	29·70	S.W.	0·24	74	55	48	48	50	Cloudy

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